CENTRAL PATENTS INDEX

CLASSIFIED ALERTING BULLETIN

WEEK C48
21 JANUARY 81
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ABSTRACTS

INDEXES

II - PATENTEE

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Section D:

FOOD
DETERGENTS

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COUNTRY	PUB DATE(S)	NUMBER RANGE
BELGIUM		
-Delayed	10 NOV - 17 NOV 80	883,167 - 883,353
-Non Delayed	17 NOV 80	884,332 - 884,432
BRAZIL	4 NOV 80	7,902,747 - 8,005,322
	11 NOV 80	7,805,905 - 8,005,846
CANADA	4 NOV 80	1,088,701 - 1,089,150
DENMARK	3 NOV 80	7,901,342 - 8,002,381
E.GERMANY	1 + 8 + 15 OCT 80	68,855 - 140,785
		144,146 - 144,494
W.GERMANY		
-DAS	20 NOV 80	1,564,459 - 3,001,901
-OLS	20 NOV 80	2,547,593 - 3,020,058
FRANCE*	5 + 12 SEP 80	2,448,277 - 2,448,837
	(BOPI 10 + 17 OCT 80)	2,448,838 - 2,449,389
UNITED KINGDOM	26 NOV 80	1,579,711 - 1,580,270
		2,047,061 - 2,047,510
ITALY	10 SEP 80	1,047,001 - 1,047,500
JAPAN		
-Unexamined	—	47,026,083 - 55,029,927
	11 OCT - 20 OCT 80	55,131,132 - 55,134,800
-Examined	30 OCT - 5 NOV 80	80,042,321 - 80,043,320
NETHERLANDS	10 NOV - 16 NOV 80	7,903,553 - 8,002,739
NORWAY	3 NOV 80	7,901,126 - 8,002,737
RES.DISCLOSURE	NOVEMBER 80	199,001 - 199,060
FINLAND	31 OCT 80	7,804,036 - 8,002,336
SOVIET UNION	—	126,365 - 728,975
SWEDEN	10 NOV 80	7,903,065 - 8,004,703
UNITED STATES		
-Reissues	11 NOV 80	Re30,432 - Re30,435
-Patents	11 NOV 80	4,232,402 - 4,233,686
PCT	13 NOV 80	8,002,355 - 8,002,492

*Printed patents actually published mid October - early November, 1980

Arrangement of Abstracts

See Appendix I for definition of 'Major' and 'Minor' Countries.

'MAJOR' COUNTRIES – An alerting abstract of every basic and examined equivalent document is provided except for equivalents from Canada, East Germany and Switzerland. The abstracts are arranged in CPI class order and within any one of the 135 classes are in country and patent number order.

'MINOR' COUNTRIES – Basic headings are included in sequence with the entries from the 'Major' countries.

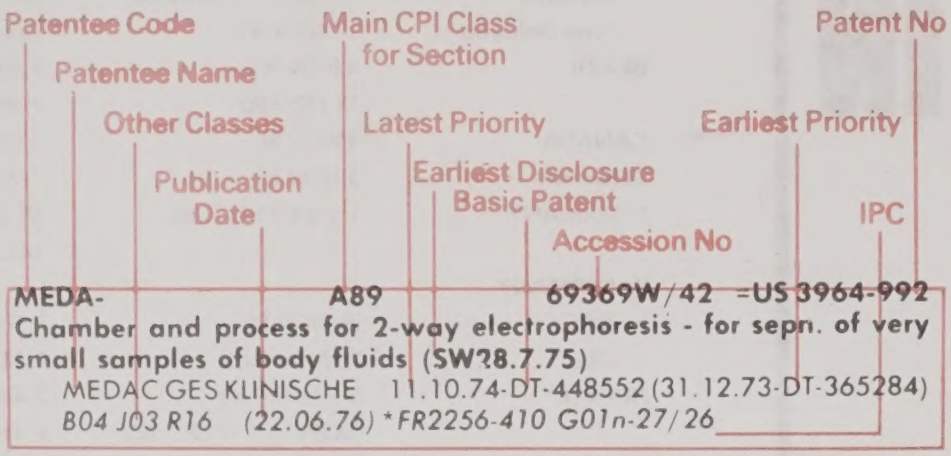
CPI Section Headings

See inside cover for further details.

A	Polymer Chemistry	F	Textiles, Paper, Cellulose
A+	Polymer Applns.	G	Printing, Coating, Photographic Chemistry
AE	Polymer & General Chemistry	H	Petroleum
B	Pharmaceuticals	J	Chemical Engineering
C	Agricultural Chemistry	K	Nucleonics, Explosives, Protection
D	Food, Disinfectants, Detergents	L	Refractories, Ceramics
E	General Chemistry	M	Metallurgy
E+	General Chemistry Applns.		

Typical Abstract Heading

See CPI/WPI Instruction Manual No. 1A for explanation of the various flagged descriptors.



Copies of Specifications may be ordered from our PATENTS SUPPLY DIVISION.

D1: FOOD; FERMENTATION

D11 : BAKING

VER- D11 16880 Y/10 #DS 2555-929
Strudel leaf dough sheets prodn. - by gripping edges of thinned wad between pairs of diverging travelling belts
EVEREX CORP 16.05.73-US-360923 (12.12.75-DT-555929)
*(20.11.80) *GB1466-314 A21c-03/02*

In the direction of motion of a thin layer of dough through a plant for producing flakey pastry, an infrared heater is positioned in front of the hot air drying arrangement.

The plant rolls out a thin strand of dough into a thin flat layer and has two pairs of conveyor belts spaced laterally some distance from each other and diverging relatively to their long axis.

The dough is supported by tables slightly wider than the desired finished width of the dough, and at the end of each pair of diverging belts, cutters are fitted. The plant produces thinner sheets of dough at much higher speeds.
12.12.75 as 555929. (7pp1045)

GIES/ ★ D11 84692 C/48 ★DT 2920-417
Coated bread products - comprising bread core with edible coating, esp. of chocolate
GIESSLER H 19.05.79-DT-920417
(20.11.80) A21d-13

Bread products comprise a bread core with an adherent coating of edible material, pref. a material normally used as a filler for bakery products (esp. chocolate). The bread is pref. produced from rye flour, opt. contg. ⩽ 30% wheat flour. It can be conventionally baked or twice-baked in the form of crispbread or rusks, and can be impregnated with liq. flavours. The moisture content of the core is pref. < 15%.

The products have a pronounced bread flavour contrasting pleasantly with the flavour of the coating material. They are easy to produce and have a long shelf life.
19. 5. 79 as 920417(9pp367)

PAPE- ★ D11 84771 C/48 ★DT 3017-510
Pastry box container - from folded cardboard cut/out with run/out proof corners
FED PAPER BOARD CO 07.05.79-US-036326
Q34 (20.11.80) A21b-03/13 B65d-81/34

A box container for cakes or pastries is strong enough to support the dough in the baking oven and to be used for transport and sales display. Each corner web is folded to make the contents run-out proof. The side walls have narrow folded top strips with a flap to be lashed into one of the webs. The flaps also engage in the folded top strip of the adjacent side.

The cardboard cut-out is preferably coated with a material to withstand the oven temperatures.

This box container has a universal application. It can be produced at a competitive cost compared with metal trays. All crucial parts have been suitably strengthened.
17. 5. 80 as 017510(20pp39)

FRIN- ★ D11 84874 C/48 ★FR 2448-694
Retractable ramp for doorway of baker's bread oven - makes way for door to seal effectively against bottom edge of doorway
ETAB FRINGAND 08.02.79-FR-003243
Q74 (10.10.80) A21b-01/44 A21b-03 F24c-15

Oven is for cooking food prods., partic. for baking loaves of bread. Oven is of the type which contains a horizontal, rotary platform on which trollies of prod. are carried during the baking process. Oven has a doorway through which trollies are passed into and out of the oven chamber. From the exterior, the bottom edge of the doorway is approached via an inclined ramp up which trollies are wheeled.

A door is hinged to close against a resilient seal surrounding the doorway on the outside of the oven. The ramp is non retractable into the oven by mechanical action of the door as it closes. The ramp is hinged along the lower horizontal edge of the doorway. As the door closes it swings the ramp upwards and right over its hinge so that the ramp lies entirely inside the closed door. Opening the door replaces the ramp ready for trollies to roll in or out of the oven.

The door pref. has a striker fixed to its interior face near its vertical hinge. The striker, contact a buffer on the ramp, and/or the ramp itself, to swing the ramp in and out of the oven.

Used as a retractable ramp for loading/discharging a bakery oven with trollies of bread. 8.2.79 as 03243 (10pp448).

LAUR/ ★ D11 84887 C/48 ★FR 2448-863
Bakery dough dividing machine to deliver measured pieces for loaves - compresses dough before delivery to eliminate air pockets
LAURENT R R P 15.02.79-FR-004097 (02.06.78-FR-017240)
(17.10.80) A21c-05

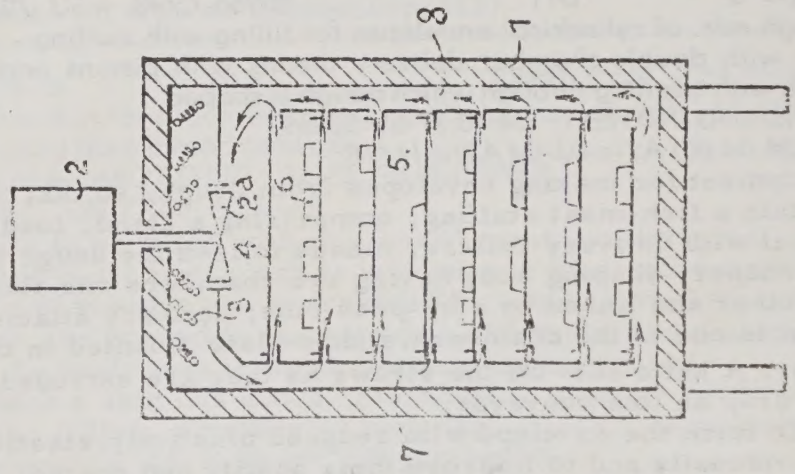
The parent patent showed a dough dividing machine for producing dough pieces of measured vol. to be made into loaves of bread. The machine has an open-topped cylinder with a piston which retracts to draw in dough and advances to drive out the piece. Piston retraction takes place while the cylinder mouth is covered by the outlet end of a delivery pipe from a dough supply hopper.

The pipe is set at an angle to a vertical pivot so that the outlet end can be swung onto a surrounding plate. This closes the outlet end while the piston rises on its discharge a dough piece. The pipe outlet end always takes up one of two positions, i.e. delivering to the cylinder or away from the cylinder and closed.

The outlet end of the delivery pipe is now temporarily located at an intermediate position between fully open and fully closed. For a brief duration at the start of the discharge stroke of the piston, the outlet end of the pipe is partly overlapped with the mouth of the cylinder. 15.2.79 as 004097 Add to 2.6.78 - 017240 (5pp448).

THIR/ ★ D11 84922 C/48 ★FR 2449-250
Hot air oven for cooking food prods., e.g. cakes - has horizontal air flow between shelves via narrow side slots
THIRODE R 15.02.79-FR-003824
Q74 (17.10.80) A21b-01/26 F24c-15/32

The oven chamber contains a number of evenly spaced, superimposed, horizontal shelves. The space between each



adjacent pair of shelves forms a transverse corridor through which heated air is blown across the width of the chamber.

At each side edge of each shelf, a vertical flange extends upwards almost to reach the underside of the shelf above. At the top of each flange a lip is turned inwards towards the centre of the chamber. The narrow slot between the lip and the underside of the shelf above ensures that

hot air flows as a thin film along the underside of the shelf above.

The shelves are symmetrical at each side so the direction of air flow through corridors between the shelves can be reversed periodically. The air slot at the top of each side flange pref. has a width equal to about 10% of the distance between adjacent shelves.

Oven is used for cooking food prods. e.g. baking cakes. 15.2.79 as 003824 (8pp448).

PFIZ D11 59085 A/33 =GB 1580-015

Flour substitute compsn. for reducing food calorie content - contains cellulose and/or non-digestible starch derivs., xanthan gum and emulsifier

PFIZER INC 07.02.77-US-766218

*(26.11.80) *DT2804-634 +A21d-13/08 C08l-03/02 C08l-05*

A compsn. for use as a flow substitute comprises ⩾1 cellulose or non-digestible, acid-treated starch deriv., xanthan gum, and ⩾1 emulsifying agent, such that the gum is present in amt. 1-3.5 wt.% w.r.t. the starch cpd. and the emulsifier present in amt. 2-7 wt.% w.r.t. the starch cpd.

Pref. the emulsifier is lecithin, monodiglyceride mixt. sodium steroyl-2-lactylate or triglycerol monostearate, esp. lecithin.

The compsn. is used to extend flow such that ⩽70 wt.% of the flow is substd., or as a baked food prod. comprising a digestible starch in a wt. ratio with the compsn. of 9:1-3:7. 2.2.78 as 004142 (21pp931)

NISE-★ D11 85026 C/48 ★J5 5131-340

Quality improving agent for use with flour - obtd. by mixing cysteine or its hydrochloride and L-ascorbic acid or its sodium salt and adding lipase

NIPPON SEIFUN KK (TANA) 30.03.79-JA-038939

E19 (13.10.80) A21d-02/08

Improving agent is obtd. by mixing (a) 1-10 pt.wt. cysteine or its hydrochloride and (b) 2-40 pt.wt. L-ascorbic acid or its sodium salt and combining (c) 2-400 pt.wt. lipase drug having the factor ca. 5000 unit in the mixt..

As the lipase drug that originated from microbes such as Candida, Rhizopus, etc., animal and vegetable, can be used. The improving agent is so combined that the factor of lipase, the content of L-ascorbic acid or its sodium salt and the content of cysteine or its hydrochloride are 50-10000 unit on 1 kg of flour, 10-200 ppm and 5-50 ppm on flour respectively. The improving agent and flour are mixed together with lactose, egg white, casein, etc. for stabilising the lipase and preventing the oxidn. of cysteine.

The quality-improving agent improves not only the processing property of the flour of low glutinising temp. but also that of normal flour. 30.3.79 as 038939 (5pp5).

FISH= ★ D11 85966 C/48 ★SU-728-816

Dough mfr. of cylindrical envelopes for filling with stuffing - using unit with double-chamber delivery means with pistons and die-plate with opening through which dough is shaped

FISHING IND FLEET 04.10.77-SU-532697

(28.04.80) A21c-03/04 A21c-11/18

Equipment for making envelopes from dough, so that they contain a fish-meat stuffing, comprising a stand, loading funnel with delivery rollers, means to feed the dough to the shaper, shaping body having two chambers one above the other and linked by a by-pass tube, delivery attachment in one of the chambers, and die-plate mounted in the other. A knife cuts off the straws as they are extruded and drop on to a conveyor.

To form the envelope with reduced plasticity, elasticity and viscosity and to improve their quality and control their length, the chambers are made cylindrical, the feeder for the dough is a pumplinked to the lower chamber, and the delivery means are pistons mounted inside along the same axis and capable of forwards/backwards motion and cams in the end walls to limit the movement. The linking tube is divided into channels each of which feeds a hole in the die-plate.

Timoshkov, V.G., Ogorodnikov, L.S., Mikhailov, G.V., et al Bul.15/25.4.80.4.10.77.as532697(4pp29).

USUP= ★ D11 85967 C/48 ★SU-728-817

Forming patterned biscuits from dough blanks - using rolling-turning shaped attachment on revolving shaft, with needles passing through sponge rubber, sheath

UKR SUPPLY MACH CON 05.04.76-SU-344279

(28.04.80) A21c-11

Equipment for imparting the shape of biscuits to dough blanks, according to Parent Cert. 456598, which comprised a drive shaft with shaping mechanism, having plate-shaped attachment fastened to it and arranged at an acute angle to the axis of the shaft. The technological possibilities are extended, as a result of combining the operations of shaping and applying a design by firmly fixing needles to the attachment of the shaping mechanism, and using these to apply the pattern. The shaping surface is covered with an elastic sheath made of anti-sticking material, through which the needles are arranged.

Bondarenko, V.V., Bul.15/25.4.80.5.4.76.as344279 Add to 456598(2pp29).

KIFO= ★ D11 85968 C/48 ★SU-728-818

Bread prod. e.g. bread-roll baking - using four-zone tunnel oven through which heating gaseous medium is circulated with constant temp. in final zone

KIEV FOOD IND TECHN 21.11.77-SU-546556

(28.04.80) A21d-08/06

Method for baking bread rolls, by heating the surfaces of the dough blanks in steam/moisturising intensive heating, and final baking zones.

Energy consumption is reduced and the output of rolls is increased, as a result of baking thoroughly, by maintaining the constant surface temp of the pieces of dough in the final baking zone with temp of the medium in this zone being varied according to a linear relationship of temp. against time. The time for the final baking is 25-30% of the total time the dough pieces are being processed

Shulgin, I.M., Sigal, M.N., Volodarskii, A.V., et al Bul.15/25.4.80.21.11.77.as546556(5pp29).

LIFO= ★ D11 85973 C/48 ★SU-728-823

Confectionery cooler - has chamber through which multistage conveyor moves while cold air is blown around articles as they pass from stage to stage

LITH FOOD IND MIN 06.05.77-SU-483780

(26.04.80) A23g-07

Equipment to allow confectionery articles to stand (whilst cooling) e.g. multilayer waffle-wafers with filling, has chamber, double-chain multistage roller conveyor with supporting sprockets, hangers for trays, feeding conveyor with supply and removal sections, air-supply system and drive. Operational reliability is increased and dimensions are reduced by making the hangers as strips bent to a loop-shape, forming slots for the feeding and removal sections of the feeding conveyor, and fastened to the chains at diagonally-placed jpoints. The sprockets for each chain are displaced in the horizontal plane, and the drive is a frame which moves backwards and forwards and has pawls corresponding to the number of stages in the conveyor.

Stasitis, A.I., Bul.15/25.4.80.6.5.77.as483780(3pp29).

PATE-★ D11 86241 C/48 ★US 4233-321

Prepn. of white pan bread or rolls - with lactose partially replacing sugar and/or shortening in the dough, with prolonged shelf life

PATENT TECHNOLOGY 25.10.78-US-954644 (10.09.76-US-722218)

(11.11.80) A21d-13 A21d-15

Freshness of white pan bread or rolls is preserved for prolonged periods of time as follows: a conventional formulation of essential dough ingredients including flour, H_2O, leavening, 6-13% sugar and 2.5-8% shortening (both by wt. of flour) is improved by using lactose (I) as a replacement for 10-50% by wt. of the sugar content and 10-50% by wt. of the shortening content. The compsn. is mixed into a dough, divided into units, and baked in the normal manner.

Prepd. bread or rolls retain their freshness for at st 50-100% longer than conventionally prepd. materials. ddn., the prods. have greatly increased vols. and proved external appearance than normal bread or rolls. 10.78 as 954644 (+ 19.9.77-US-834808)(8pp478)

TE- ★ D11 86247 C/48 ★US 4233-330
pn. of yellow, white and devil's food cakes - with partial lactose lacement of dough sucrose and/or shortening, with prolonged lf life
PATENT TECH INC 25.10.78-US-954646 (10.09.76-US-722218)
(11.11.80) A21d-13/08 A21d-15
e freshness of the cakes is preserved for prolonged per- s of time as follows: a conventional formulation of essen -tial cake mix ingredients including flour, H_2O, leavening, and 24-32% sugar and 8-13% shortening (both by wt. of flour) is improved by using lactose (I) as a replacement for 10-35% by wt. of the sugar content and 10-35% by wt. of the shortening content. The compsn. is mixed into a batter, divided into units, and baked in the normal manner.

Prepd. cakes retain their freshness for at least 100-400 % longer than conventionally prepd. materials. In addn., the prods. have greatly increased vols. and improved exter -nal appearances than normal cakes. 25.10.78 as 954646 (19.9.77 - US - 834808)(8pp478)

See. Also

D13 J8 0042608

D12: MEAT; FISH PROCESSING

AHR- ★ D12 84466 C/48 ★DL-144-355
rtioned filling of sausage meat - by reciprocating central sleeve ith shutter
NAHRUNGSGUTERMASCH 20.06.79-DL-213762
(15.10.80) A22c-11/04
etering pump for sausage meat consists of three sleeves. ne of the two outer stationary sleeves is for the supply of e sausage meat, and the other is attached to the skin fill- r hose. The central sleeve can reciprocate as it slides lescopically over the two other sleeves, it has a shutter cross and its extreme positions are marked by limit witches.

This ensures a precise portioning of the sausage meat nd its transportation without exposing it to harsh treat- ent. 20.6.79 as 213762 (10pp39)

ETT- D12 89781 V/52 =DS 2454-042
ir driven annular boning knife - with pneumatic turbine and eduction gear in handle
BETTCHER INDS INC 28.01.74-US-437526
*P62 + Q51 (20.11.80) *US3852-882 A22c-17/04*
he valve operating spindle of a pneumatic hand tool for cripping flesh from bones and for boning meat generally, hich is pressed by a hand lever to set the cutter in rota- on, has a section of reduced dia. On the handle of the ool, a rotary adjusting ring through which the valve spind- e projects is positioned, and has in the zone of the spindle keyhole shaped opening with a larger and a smaller sec- on. The ring is pressed by a spring so that the smaller ection engages with the reduced dia. of the spindle lock- ng it in the closed position.

The cutter can thus not be started unintentionally. Two ands are necessary to set it in rotation so that the risk f accidents is very greatly reduced. 12.11.74 as 454042. 7pp1045)

HORM- ★ D12 84576 C/48 ★DT 2918-829
Animal carcass skinning machine - with skinning flap cutter in evolving skin grip and skinning blade
HORMEL G A & CO 10.05.79-DT-918829
(20.11.80) A22b-05/16
A machine for skinning animal caracasses, specially pig carcasses, includes a rotatable vertical cylindrical drum, and a skinning blade next to it for the trunk portion of the carcass. The drum has a device to form and grip a flap of the skin at the start of the operation. A blade on the drum produces a longitudinal cut, when the carcass is urged against it, and the skinning blade progressively sep- arates the skin from the carcass.

This leaves a min. ambient of fat on the skin, requir- ing no other operation before its conversion to gelatin. The new method saves scalding and singing. 10.5.79 as 918829(27pp39)

KOLM/ ★ D12 84670 C/48 ★DT 2920-048
Ham press - with shaped inserts for ratchet bars actuated by sausage stuffing machine
KOLMEL P 18.05.79-DT-920048
(20.11.80) A22c-07
Press for boiled and smoked ham or pieces of salted meat consists of a base with two uprights carrying ratchet bars. Inserts of round or square shape are laid in to enclose the lump of meat. A top piece with springloaded pawls on the sides, to engage in the ratchet bars, is laid on the top insert. The pressure is applied by the cylinder of a conventional sausage stuffing machine.

This creates a simple attachment which can be used even in small butchers shops. 18.5.79 as 920048(5pp39)

FISK- ★ D12 84727 C/48 ★DT 3015-088
Removal of fat, intestines etc. from fish - by treatment with an aq. medium at pH 3 to 5
FISKERITEKNOLOGISK 03.05.79-NO-001481
(20.11.80) A22c-25
Fat, pigments and intestinal residues are removed from raw fish by treating the fat or lean fish in an aq. medium at pH 3-5, esp. pH 4 and a temp. of 20-50°C. The pH is adjusted e.g. with an (in)organic acid such as acetic acid or propionic acid. The treatment is carried out e.g. for 5 mins-5 hours with stirring of the soln. above the fish, or for 5 mins-24 hours without stirring. The fish and fish- bones are then sepd. from the fat, intestinal residues, solubilised skin and dark pigments in the known way.

During the treatment, the fish muscle becomes firmer; the tissue surrounding the fat is destroyed, so that the fat is released; the intestines are fragmented and sepd. from the muscle; and the skin and stomach epithelium are solubilized. A light coloured fish flesh with a low fat content is obtd. 19.4.80 as 015088(10pp513)

TOWA- ★ D12 84831 C/48 ★DT 3018-861
Fibrous skin for processed meat - made of porous web with viscose layer and fibre thread network
TOWA KAKO CO LTD 16.05.79-JA-059987
A97 (20.11.80) A22c-13
A skin to be filled with processed meat consists of a porous basic web which is welded to a tube, coated with a layer of viscose and surrounded by a network of threads which are bonded to the outside. The preferred material for the basic web is wood pulp and cotton linters.

Such a skin has enough mechanical strength not to burst during filling, smoking or handling. It has a decorative appearance. 16.5.80 as 018861(13pp39)

UMEY- ★ D12 84952 C/48 ★GB 2047-067
Flavouring and preservative agent for foods - based on japanese plums, salt, spice vegetables and bulking and seasoning agents
UMEYA TRADING CO 05.03.79-JA-025344
(D13) (26.11.80) A23I-01/22
A falvouring material forpreventing or reducing rotting

of perishable foods includes a paste prepd. from mashed Japanese plums (umes), rock salt, one or more spices, and seasoning and bulking materials.

The spice material is pref. beefsteak plant, red pepper or garlic. The seasoning and bulking material is malted rice (koji) or a mixt. of bean paste (misco) and sugar.

Antiseptic agents released from the Japanese plums penetrate into meat or other foods, inhibiting microorganisms. 27.2.80 as 006649 (3pp955)

ROBE/ ★ D12 84954 C/48 ★GB 2047-071

Animal pelting by using ring tool - pushed along carcass while clamping pelt front portion

ROBERTSON A A J 29.03.79-NZ-190042

(26.11.80) A22b-05/16

The fore portion of a pelt is worked up and is clamped in an annular device which encircles the trunk. A ring-shaped tool is then pushed rearwards over the carcass bricket and rump regions to free the pelt from these areas. While the tool is held in its fully extended position the carcass is pulled out of the clamp to withdraw the rear legs from the pelt.

Pref. the tool is constructed from two sections which are brought together to encircle the carcass prior to pelting. Pref. the tool is shaped to minimise build-up of belly while pelting this region.

The method removes the pelt from a sheep, cattle beast, goat or pig. 18.3.80 as 009077 (12pp295)

AZIE- ★ D12 C/48 ★IT 1047-475

Mixed meat foodstuffs prodn. and roasting

AZIENDA AGRICOLA NA 27.10.70-IT-003599

(10.09.80) A22c

QPPP ★ D12 85557 C/48 ★J8 0042-609

Canned poultry meat prodn. - by boiling meat with bone in water, removing bone and immersing in soln. contg. poly:phosphate and protease

Q.P. CORP 02.07.73-JA-073619

(D16) (31.10.80) A23b-04

In the prepn. of canned poultry meat, the meat with bone is boiled in water, the bone is removed, and then the resultant is immersed in a soln. contg. polyphosphate and protease. 2.7.73 as 073619. A23b 4/00 (31.10.80) Q.P. CORP. (2pp22)(J50019959)

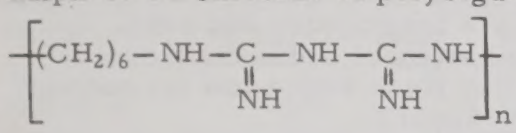
UENO D12 55096 X/29 =J8 0042-611

Antibacterial polybiguanide salts - used in the preservation of foodstuffs

UENO PHARMACEUTICAL KK 27.11.74-JA-135618

*A97 (A26) (31.10.80) *J51063-964 A23b-04/14*

Sulphate or chloride of polybiguanide having the formula (I):



(I)

(where n = polymerisation degree, pref. MW = 900-1300), are added to fish meat or domestic animal meat as a preserving agent. The polybiguanide has excellent effect in the presence of protein, has no taste or flavour, and has low toxicity to humans. The toxicity to mice : LD_{50} = 4000 mg./kg. 27.11.74 as 135618. A23b 4/14 (31.10.80) UENO PHARMACEUTICAL KK (6pp)(J51063964)

NISH/ D12 66980 B/37 =J8 0042-819

Preventing denaturing of actomyosin when freezing minced fish - by blanching, cutting into pieces, adding phosphate, sugar and/or amylopectin and kneading before freezing

NISHIDA S 21.01.78-JA-005707

*(01.11.80) *J54098-361 A23l-01/32*

The method comprises (a) blanching the fish meat; (b) cutting it in fine pieces; (c) adding phosphate, sugar and/-or $\leqslant 3\ ^{w}/_{w}\%$ amylopectin; (d) kneading the mixt., and (e) freezing it.

Minced fish of excellent elasticity, stickiness and colour can be obtd. 21.1.78 as 005707. A23l 1/325 (1.11.80) NISHIDA, S. (5pp)(J54098361)

NIJH- ★ D12 85614 C/48 ★NL 7903-67

Conveyor in abattoir stunning machine - joins two endless chains b plates with curved edges forming closed hinges

MACH NIJHUIS G J BV 10.05.79-NL-003677

Q35 (12.11.80) A22b-03/06 B65g-17/06

The edges of the plates forming with two endless chains, one of a pair of conveyors in a machine for electrically stunning beasts for slaughter are curved over and hinge o each other. The curves of the plate edging zones are concentric with the corresponding hinge pins of the chain link The two conveyors are aligned parallel to each other so a to form a "V"-shaped passage between them. In the working plane the plates form a continuous surface, and the width of each plate in the direction of transport is equal to the length of the links.

To modify an existing conveyor so that there is no possi -bility of the animal being trapped by its skin, tail or foot, between two successive conveyors with consequent damage By the hinging together of the plates, the forming of a split at the turning wheels is avoided and the plates form a closed plane. Their curved surfaces assist in the moving of the animal. 10.5.79 as 003677 (6pp1014)

NIJH- ★ D12 85615 C/48 ★NL 7903-678

Automatic stunning of animals for slaughter - by spring-loaded electrodes fitted with shock dampers ensuring good contact

MACH NIJHUIS G J BV 10.05.79-NL-003678

X25 (12.11.80) A22b-03/06

The spring which returns the swinging electrodes to their starting position, in a plant for stunning animals for slaugh -ter, and esp. pigs, is fitted with a damping cylinder. The shock dampers of a number of stations may be connected to an accumulator. The arrangement consists of a frame with two endless belts inclined to form a "V"-shaped passage for the animal. The damping cylinders hold the electrodes positioned one behind the other in the lengthways direction, in contact with the head of the animal in spite of evasive tactics.

A high throughput of carcasses is thus ensured. 10.5.79 as 003678 (5pp1014)

NIJH- ★ D12 85616 C/48 ★NL 7903-680

Electrical stunning machine for beasts, to be slaughtered - has sets of electrodes swinging out of conveying passage

MACH NIJHUIS G J BV 10.05.79-NL-003680

X25 (12.11.80) A22b-03/06

The electrodes or sets of electrodes arranged one behind the other, some little distance apart, in a machine for stun -ning beasts and esp. pigs for slaughter, by an electric shock, project, in their starting position, into the "V"-shaped passage between two conveyor belts. From this pos -ition they can be tilted on a horizontal axis against the pressure of a spring, into a position aligned to the direction of motion of the conveyors and above them. The first electrode is inclined forward and downward. Its electrode surface is very short and is only on its under surface. The second electrode is inclined against the direction of motion backward and downward and has an electrode surface extending over practically the whole of the side turned towards the first electrode. In its starting position the second electrode touches a circle which is concentric with the arc followed by the first electrode. In its middle position, the first electrode is aligned roughly vertically to the second electrode.

Used to ensure a good contact at the right place so that irrespective of the size of the animal, a sharp shock stuns it, without the possibility of muscular contraction causing bone breakage and internal bleeding. 10.5.79 as 003680 (8pp1014)

NIJH- ★ D12 85617 C/48 ★NL 7903-681

Electrical stunning of beasts esp. pigs for slaughter - with electrodes moved on carriage at speed of conveyor

MACH NIJHUIS G J BV 10.05.79-NL-003681

X25 (12.11.80) A22b-03/06

All the electrodes are assembled on a carriage which is displaceable lengthways above the conveyors in a machine for electrically stunning beasts for slaughter, esp. pigs.

he carriage is connected to a driving mechanism which oves it backwards and forwards. The speed of the recip-ocating motion is equal to or a little lower than that of the onveyors. These are arranged so that their surfaces form "V". The electrodes project into the passage between he belts, and can allow a free passage through.

To ensure that a sufficient intensity of flow is set up for he stunning of the animal without causing a condition of tress harmful to the quality of the meat. The output re-uired from these installations if 600 pigs per hour which s possible if a first rate contact is made by the electrodes. During the brief period of contact, the beast is moved 30 m by the conveyors, so that contact must be maintained ver this distance. 10.5.79 as 003681 (7pp1014)

STRK ★ D12 85623 C/48 ★NL 7903-737
Plucking element for stripping feathers from fowl carcasses - has flat ended truncated conical holder for plucking fingers
STORK PMT BV 11.05.79-NL-003737
(13.11.80) A22c-21/02

The mantle surface for the driven holder for the plucking fingers in a machine for stripping the feathers from the carcases of fowl, is a truncated cone, whilst the end face, at right angles to the axis of rotation is flat. Between man-tle surface and end face, a number of transition surfaces subtending a more acute angle to the centreline of the hold-er, each carry at least one plucking finger The end face supports a number of plucking fingers aligned parallel to the centreline.

To provide a plucking finger holder to which the fingers can be secured firmly, and which removes the feathers efficiently. 11.5.79 as 003737 (9pp1014)

TEKH= ★ D12 85676 C/48 ★SU-669-507
Removing inner organs from small fish - using conveyor with grippers, decapitating knife, and nozzle to provide water under pressure to angled body cavity
TEKHRYBPROM EXP PRD 06.07.76-SU-381649
(15.06.80) A22c-25/14

Equipment to remove the insides of fish, during filleting has conveyor with pans above and spring-loaded grippers with a hydraulic unit and slide-valve distributing attach-ment to which another attachment is connected.

The equipment is simplified and the range of treatable fish extended with prod quality retained, by shaping the conveyor with the grippers as an equilateral triangle, arranged in the vertical plane and the distributing attach-ment being located at its geometric centre. The grippers are held by one end so that they can rock about and the smaller attachments are mounted on the respective grip-per so its relative posn can be regulated.

Markov, V.F., Lavrentev, B.F., Semyanov, A.P., et al
Bul. 22/15.6.80.6.7.76.as381649(4pp29).

KOMP= ★ D12 85746 C/48 ★SU-726-158
Recovering fat from animal bones - by vibrating crushed bone in hermetic chamber in presence of solvent, used in meat processing
KOMPLEKS POULTRY 06.04.78-SU-602937
(05.04.80) C11b-01

Fat is recovered from animal bones by crushing and then vibrating the crushed bone in a hermetic chamber in the presence of a solvent. The residual air content of the chamber is < 3% and the chamber is vibrated at a speed of 10-25m/sec² and an amplitude of 1.5-5mm.

The method enhances the rate of fats recovery and in-creases the degree of flesh residue sepn.

Tatevosyan, R.A., Sudzilovskii, I.I., Shumkov, E.G., et al
Bul. 13/5.4.80.6.4.78.as602937(2pp314).

NMHB D12 42333 A/24 #SU-728-688
Fish filleting machine - with paring blades between ventral and dorsal blades for inclined head removal leaving narrow central strip
NORDISCH MASCH R BAADER 10.09.77-DT-740819 (02.11.77-SU-541201)
*(15.04.80) *DS2740-819 A22c-25/16*

Filleting non-decapitated fish is performed by cutting from both sides transversely in the region of the gill cov-ers followed by cutting the fillets from the side of the spine and the abdomen. Fillet quality is increased, to-gether with the yield by precisely centering the fish, by simultaneously cutting ehs side parts of the head while the knives enter the gill covers, and leaving narrow strips along the axis of symmetry of the fish. The cutting in the region of the head is done before cutting the fillets or after the cuts have been made from the side of the ab-domen. The equipment consists of a conveyor and paired disc knives, for filleting the spine and abdomen, as well as for removing the costal bones. The knives are dispos-ed at an angle of less than 60° relative to one another, with guides for the head located in front of them.

Hartmann, F., Bul. 14/15.4.80.2.11.77.as541201(3pp29)

MEAT= ★ D12 85969 C/48 ★SU-728-819
Sausage meat stuffing, vacuum-treating and pressing equipment - has screw with opposite threads and two bodies with annular gap between to force meat through
MEAT IND RES INST 22.11.78-SU-687904
(18.04.80) A22c-11/08

Equipment for vacuum-treating and pressing sausage meat(stuffing)in the meat and fish industries, has cylind-rical body with loading hopper and unloading hole, a screw feeder inside the body, the turns of which are in opposite directions, plus a pipe linking the body to a vac-uum system and a motor. Grinding and heating of the stuffing are avoided, by fitting an extra cylindrical body coaxially inside the main one so as to form an annular gap through which the stuffing can pass. The distance be-tween the walls of the bodies does not exceed the radius of the extra body. The loading hopper is connected to the inner body by a pipe with the end walls of the latter at a distance from the pipe equal to one pitch of the screw.

Gorbatov, V.M., Spirin, E.T., Shchetnik, A.L., et al
Bul. 15/25.4.80.22.11.78.as687904(3pp29).

RUBA/ ★ D12 85970 C/48 ★SU-728-820
Fish-sorting equipment - has drum formed from driven rollers with torsion bars forming gaps through which fish pass for grading based on thickness
RUBAN L T 13.12.74-SU-493953 (13.12.74-SU-084213)
(28.04.80) A22c-25/04

Fish-sorting equipment, comprising rotary driven drum made up of driven rollers in sections, with slots calibra-ted to different sizes, loading head coaxial with the drum, spray pipe and drive for the rollers.

Grading effectiveness is increased, construction is simplified and productivity increased by distributing the drum section concentrically and putting extra sections concentrically inside them. These extra sections are for-med by torsion bars on to one end of each of which is a shell freely placed on the loading head and interacting with the ends of the rollers. On the other ends of the tors-ion bars is a framework with supports for the rollers.

Ruban, L.T., Bul. 15/25.4.80.13.12.74.as084213(4pp29).

DENE/ ★ D12 86057 C/48 ★US 4232-424
Carcass evisceration plant - carcass trolleys switched to high or low rail depending on size
DENEFE J C 16.04.79-US-030222 (12.01.78-US-869006)
X25 (11.11.80) A22b-05

Plant includes a revolving platform to carry an operator and an overhead conveyor with an entrance rail, and low-er and upper rails for smaller and larger carcasses res-pectively, and running parallel to each other above the platform. A sensor detects incoming carcass size and actuates a switch to direct the carcass to the appropriate rail.

Carcasses are carried on trolleys moved by a link chain with trolley engaging elements and passing along a guide. A second rail switch and detector pref. discharge eviscerated carcasses to an exit rail. The chain pref. has drop and spring-loaded side fingers to engage trolleys on the lower and upper rails respectively. The parent pat-ent claims the method. 16.4.79 as 03022 Div. ex 4208765 (11pp1358)

CHIN/ D12 29813 B/16 =US 4233-018
Extruding egg roll filling from adjustable die - with insert reducing cross/section of filling, then stabilising
CHINFEN D L 27.02.76-CA-246749
*(11.11.80) *CA1052-173 +A21c-11/10 B29f-03/06*

A food product extruder, particularly for the filling for Chinese egg rolls, which require mild compression without shear forces, includes a first section initially shaping the product and having a smooth transition to a stabilising section in which the transverse dimensions do not increase from inlet to outlet.

The cross-sectional area of the first section outlet is up to 15% larger than that of the stabilising section outlet. The stabilising section is pref. 1 inch long, and there may be a pair of side-by-side two-section passages producing a pair of extrusions. The product is pref. forced through a holed plate in the housing, with a rotatable blade to clear pieces caught by the plate. 1.8.78 as 930060 (+24.2.77 - US - 771459)(12pp1358)

TETR D12 56545 B/31 =US 4233-320
Working up fish raw material for human nutrition - by dividing to fluid condition, sterilising and coagulating, cooling, re-processing and packing (NL 25.7.79)
TETRA PAK DEV SA 23.01.78-SW-000776
*+Q31 (11.11.80) *DT2901-118 A22c-25/20 A23b-04*

A food prod.contg. proteins is treated and packaged by reducing the raw prod. to > 1 particle of size < 5 mm forming a homogeneous fluid or semifluid, sterilising to partly cause the proteins to coagulate, then cooling to < the coagulating temp.

The cooled prod. is homogenised to fluid or semifluid form, then packed under aseptic conditions into bacteria-proof packages and allowed to thicken to solid or semisolid form. Pref. the sterilisation occurs at ≥120 °C for ≥ 4-8 secs. after the pH has been adjusted.

Krill is esp. used as the raw material yielding a prod. with good taste, consistency, structure, preparing abilities and keeping abilities. 23.1.79 as 005909 (4pp931)

SWAY/ ★ D12 86242 C/48 ★US 4233-323
Tenderisation of fresh meat - by intermittent UV irradiation without cooling
SWAY B 08.11.78-US-958823 (24.01.77-US-761482)
A92 X25 (11.11.80) A23l-03/28

Retail cuts of fresh meat (opt. wrapped in H_2O-impervious, UV (2600-3000Å) transparent film) are tenderised as follows: (a) the meat is irradiated with UV light of intensity such that 55-95% of the surface bacteria are killed within the (irradiation is stopped before the outer surface of the meat changes colour); (b) the natural enzymes within the meat are allowed to continue to break down the connective tissue while the meat is kept at a temp. ▷ the value it reached during the irradiation step; (c) the outer surfaces of the meat are irradiated again while it is still at the temp. reached in step (b) so that most of the bacteria on the surface produced in step (b) are killed, and the meat temp. does not drop; and (d) the process is repeated until the required degree of tenderization is reached.

Simple, highly effective method (using intermittent UV irradiation of the meat at relatively higher temps.) may be used on a domestic or commercial scale, and rapidly tenderises meat without causing discolouration. 8.11.78 as 958823 (9pp478)

TEEP ★ D12 86246 C/48 ★US 4233-329
Prepn. of edible tubular sausage casings - from collagen splits from heavily limed hides, by swelling the collagen with a hydroxy acid
TEE PAK INC 18.10.76-US-733559 (02.04.73-US-347293)
A11 (A97) (11.11.80) A22c-13

Casing is prepd. as follows: (a) (I) splits (derived from substantially limed hides) are cut into small pieces and treated with a 10-45 wt. % aq. soln. of a non-toxic acid (II) at pH 1.5-3.5 so that complete swelling occurs; (b) (I) pieces are then ground up to afford a pulp of swollen (I); (c) the slurry (adjusted to 2-8 wt. % (I)) is extruded in tubular form, then coagulated, tanned, and dried to give the required edible, tubular (I). (II) has dissociation constant (in H_2O) 1×10^{-6} to 1×10^{-3}.

Simplified method allows animal hides to be used which have been limed under a variety of conditions (very long or no liming periods). The produced casings have highly desirable stuffing, linking, and cooking characteristics, and are very transparent. 18.10.76 as 733559 (25.3.75 - US - 561117)(10pp478)

FARH D12 75687 X/41 =US 4233-341
Regenerated cellulose casings for meat products - with inner coating of vinylidene chloride and acrylic copolymers
HOECHST AG 24.03.75-DT-512994
*A97 +Q67 (A11 A14) (11.11.80) *BE-839-926 A22c-13/02 B29d-09/08*

Prepn. of sausage casing comprises (1) coating the inside surface of a tube of cellulose hydrate with an adhesive priming layer of organic synthetic material, (2) applying a layer of vinylidene chloride contg. copolymer composed of 86-90 wt. % of vinylidene chloride and 10-14 wt. % of copolymerisable (meth)acrylic acid, ester(s) or acrylonitrile, (3) adjusting the moisture content of the coated tube to a predetermined value, (4) ageing the tube for ≥3 days, and (5) longitudinally gathering the aged tube to produce a slurried tube.

The refractive index of the copolymer is independent of temp. at 40-80 °C and is applied as a soln. in THF having a given concn. dependant relative viscosity.

The casing is impermeable to water vapour, oxygen and flavour substances. 22.3.76 as 668973 (14pp977)

See Also

D16 US 4233438

D13: OTHER FOODSTUFFS

SCMZ ★ D13 84392 C/48 ★BE-884-374
Imitation cocoa powder prepd. from fine flour mixt. - with added fat, flavour and colouring
SCM CORP 05.06.79-US-046156
(17.11.80) A23g

Compsn. comprises on a dry basis 60-85% of a finely ground mixt. of neutral flours, which are de-gemned and/or defatted, in proportion to obtain contents of 40-65% glucides, 1-10% fibres, 15-30% protein and 2-7% ash; and 1-25% fats, the remainder being essentially water, flavouring and colouring sufficient to produce the flavour and colour of natural cocoa powder. The powder is prepd. by dry mixing the fine flours, then mixing with water and colourant to form a paste which is extruded, dried and ground, followed by uniform application of fat and flavouring. A novel imitation cocoa base powder comprises the flours as above to give a content of 40-70% glucides, 20-35% protein, 1-10% fibre, and 2-7% ash; and a natural fat content of <3% and a water content of <5%. Another embodiment of the powder as above comprises mixing the flours to obtain the same glucide, fibre, protein and ash contents as natural cocoa.

Prod. may replace natural cocoa up to 100% in compsns using cocoa. It has the same taste and colour as natural cocoa with a similar water solubility. 18.7.80. as 884374. (35pp597).

GAUT/ ★ D13 84400 C/48 ★BE-884-429
Pasteurisation etc. of food prods. by high intensity ir rays - for short duration while prod. is simultaneously cooled
GAUTHIER R H 25.07.79-FR-019181
(17.11.80) A23l

Process and an installation are for the microbial stabil-

ation of food prods., partic. pasteurisation, by IR irradtion. Prod. can be either unwrapped or in a package nade of material which is transparent to IR rays. The uter surface of the prod. or of its package is now cooled s irradiation proceeds., pref. by circulation of a cooling uid such as air prods. are pref. carried through a tunnl on a conveyor. The conveyed prods. are simultaneousy subjected to IR irradiation and cooled by a forced draght of atmos. air.

Used in pasteurisation etc. of foodstuffs. The cooling nakes it possible to employ much more powerful levels f radiation without risk of damage to the surface of the rod. or to the package and its markings. With a more ntensive irradiation, a much shorter duration of IR treatnent suffices, so prodn. rate is increased. 23.7.80. as 884429. (10pp448.)

ECN ★ D13 C/48 ★BR 7902-750
xpansion apparatus for soya masses
TECH INVENTION APPLIQUES 07.05.79-BR-002750
(11.11.80) A23p-01

GENO ★ D13 84407 C/48 ★CA 1088-803
Pre-cooked frozen rice prodn. - by hydrating parboiled rice, rapidly chilling and then flash freezing
GENERAL FOODS CORP 27.12.77-US-864409
(04.11.80) A23l-01/20

Pre-cooked frozen rice is prepd. by a) hydrating par-boiled rice at temps. above 66°C to a moisture content of 55-70%, b) cooling the to 1.7-35°C within 30 mins. of complet-ing step a); c) freezing the rice to below -6.7°C with 30 mins,. to avoid significant cell rupturing.

The prod. tolerates variations in prepn. after reheating It forms distinct grains with firm but tender texture. 11.10.78 as 313143(10pp955)

FEIG/ ★ D13 84408 C/48 ★CA 1088-806
Dry powder spice mixt. - storage stable and usable on all types of foods
FEIGE H A 01.09.77-US-830003
(04.11.80) A23l-01/22

A food seasoning compsn. comprises 81.8-85.2% salt, 4.4-6.8% sugar, 2.4-2.8% paprika, 2.1-2.3% white pepper, 1.2-1.5% anion powder, 1.28-1.33% garlic powder, 0.85-0.89% chili powder, 1.0-1.2% ground nutmeg, 0.39-0.48% oregano 0.43-0.44% marjoram, 0.43-0.44% arise powder, and 0.09-0.13% powdered cloves.

The compsn. may be used with consistant results in a wide range of foods including all types of meats, seafood, eggs, salads and vegetables. It is easy to prepare, and can be stored indefinitely in a closed container. It has a tender-ing effect on meat, and a sealing action reducing wt. loss. Freezer burn and freezer taste are reduced if the compsn. is applied before freezing. 14.10.77 as 288751(7pp955)

GARU- ★ D13 84437 C/48 ★DL-144-230
Pelleting animal or vegetable material - in a press which simultaneously comminutes, strengthens and heats or cools the mixt.
INST GARUNGS & GETR 08.06.79-DL-213483
B05 C03 P71 (08.10.80) B30b-11

Prodn. of pellets from animal or vegetable material (A) of 0-20% moisture content, opt. mixed with inorganic solid, liq. or dissolved materials (B), in uncomminuted, precomminuted or ground form, uses a special press in which (a) the required degree of comminution, (b) additional strengthening of the pellets, and (c) direct heating or cooling are achieved. The press is connected to an external heating/cooling source for additional temp. control.

(A) can be straw, green fodder, beets, oilseeds, oil-extraction residues, animal prods., hops, weeds, pharmaceutical plants etc. and (B) can be alkali or alkaline earth cpds., NH_3, silicates or bentonite.

The pellets are useful e.g. as animal feed. The method is simple because several processing stages are carried out simultaneously; throughput is increased; energy demands reduced and the temp. can be controlled to prevent degradation of labile components. 8.6.79 as 213483 (20pp)

GRAI D13 59372 R/33 =DS 2004-716
Sepn of a protein from a plant or microbial - material contg the protein in high yield esp
GRAIN PROCESSING CORP (GRPR) 17.02.69-US-799960
*(20.11.80) *BE-746-102 A23j-01/14*

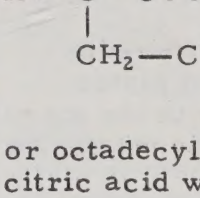
Soluble protein is recovered from vegetable protein, material, esp. soya bean by forming an aq. suspension of the initial material and then heating the suspension for ⩽6 mins. at 100-180°C under pressure and at a pH which excludes the isoelectric point of the proteins present. The mass is cooled under reduced pressure and the solubilised protein recovered in high yield. The protein has good taste and smell. 3.2.70 as 004716. (5pp068)

IRAB- D13 59571 S/37 =DS 2109-345
Water soluble powdered vegetable pro-ducts
IRAB INST RECH APPL (REC - BERE-) 27.02.70-FR-007276 (27.02.70-FR-007275)
*Q76 (20.11.80) *NL7102-711 +A23l-02/08*

Edible vegetable extracts, e.g. of coffee, blackcurrant or strawberry are dehydrated. A viscous mixt. of the vegetable extract (dry mass content ⩾50wt.%) contg. at least one thickener such as gum arabic or methyl cellulose and which foams under vacuum is exposed to a pressure of 1-20mm. Torr and to the action of an ultrahigh frequency field of frequency ⩾850MHz. 26.2.71 as 109345. (5pp068)

RHON D13 87187 V/51 =DS 2424-712
Citric acid esters useful as tensiocides - pref. mono- or di- lactyl esters prepd. from citric acid and long chain alkyl lactic esters
RHONE-POULENC SA 30.05.73-FR-019733
*E17 (D21) (20.11.80) *BE-815-698 B01f-17/36 C07c-69/70*

New cpds. are citrates of formula:



(I)

(where X, Y and Z are (a) H, alkali ammonium or (b) $-(CR_1R_2-COO)_n-R$ where n = 1 or 2; R_1 and R_2 each are H or methyl and R is 12-22C alkyl; at least one and not more than two of X, Y and Z are gps. defined under (a) and the other(s) are as defined under (b). R is pref. a hexadecyl or octadecyl gp. Such esters may be prepd. by esterifying citric acid with a hydroxy ester $HO-(CR_1R_2-COO)_n-R$ in molar ratio 1:1 to 2:1. The esters are useful as emulsifiers in the food industry, e.g. making mayonnaise, in cosmetics, etc. 21.5.74 as 424712. (6pp068)

STEP- D13 07603 Y/05 =DS 2552-045
Almond pastes e.g. marzipan for confectionery prods. - grinding and heating almonds and sugar esp. with steam in one operation
STEPHAN A & SOHNE 20.11.75-DT-552045
*(20.11.80) *BE-846-364 A23g-03*

Compsns., e.g. marzipan and persipan, are obtd. from nuts by selecting the nuts, washing and peeling them, opt. drying and then mixing with sugar and other additives and comminuting the mixt. The mixing and comminuting is effected with a high speed rotating workpiece in a single appts. and in the same appts. the mass is worked up at a temp. of about 120°C, the heat being supplied by direct passage of steam, and then cooled to about 50°C. The mixt. is sterilised under these conditions and thus has a longer storage life. 20.11.75 as 552045. (4pp068)

SAKB D13 41981 Y/24 =DS 2638-761
Treating fermented soya beans to give food prods. - by freeze-drying in a vacuum and sepg. into inner and outer layer fractions
OTSUKA KAGAKU YAKUHIN (SAKA) 07.07.76-JA-079824 (28.08.75-JA-103492)
*(20.11.80) *DT2638-761 A23l-01/20*

Freeze dried fermented soya bean is reconstituted by sepg. the freeze dried soya bean into an outer layer portion and an inner layer portion. The inner layer portion, pref. together with precooked rice is moistened and then the outer layer portion is added as a dry powder. The 'outer layer' portion is obtd. from the skin of the fermented soya bean and the layer underneath the skin. The 'inner layer' portion is obtd. from the rest of the fermented soya bean. The layers may be obtd. by sieving the dried soya bean

with a vibration sieve of mesh width 3.36 mm., the outer layer particles passing through and the inner layer particles being retained. The reconstituted mixt. has the texture, taste and smell of the original fermented soya bean. 27.8.76 as 638761 (+28.8.75; 19.3.76; 12.4.76-JA-103493; 029223; 040233) (5pp068)

FREU D13 60609 A/34 =DS 2705-671
Processing waste skin prods. to fats and protein hydrolysate - useful in animal and human nutrition, soaps, cosmetics etc., by two stage protease hydrolysis
FREUDENBERG, CARL FA 11.02.77-DT-705671
*C03 (20.11.80) *DT2705-671 C07g-07*

Skin/hide waste, such as machine glue leather, skin strips, edge cuttings etc. are worked up by hydrolysis using a proteolytic enzyme. Finely cut material is (a) hydrolytically sealed with an alkaline bacteria-proteinase having a pH activity-optimum between 9-13 in the presence of 0.01-1.0 mol./l. urea and opt. alkali, using an optimal pH and corresp. temp. for the enzyme, until the medium pH reaches ca.8, and (b) the hydrolysis is completed in the presence of a strong acid with the addn. of a weakly alkaline or neutral proteinase of pH activity-optimum 6-8, or an acid bacteria proteinase of pH activity-optimum 2-5, using a suitable pH range and corresp. temp. for the enzyme. Further (c) fat or pto tein hydrolysate is mixed in by warming to 80-100°C, and the H_2S produced in (a) or (b) is simultaneously drawn off.

Pref. alkaline proteinase used in (a) is a Bacillus strain, such as B.alkalophilus, B.firmus, B.licheniformis, B.subtilis, B.mesentericus. 11.2.77 as 705671. (4pp913)

GROT- ★ D13 84517 C/48 ★DS 2927-945
Marzipan mfg. line - with moulding machine, painting station and plate stacker for drying
GROTHE SCHOKOLADEN 11.07.79-DT-927945
(20.11.80) A23g-03/02

A marzipan prodn. line consists of a moulding machine followed by a paint spraying station. A stack of plates feeds plates one-by-one under the paper web with the marzipan mouldings, the web is cut to length the the marzipan is dried.

This simplifies and speeds up the marzipan moulding prodn. and reduces the cost of mfr. 11.7.79 as 927945. (4pp39)

KLOS/ ★ D13 84605 C/48 ★DT 2919-059
Buttermilk-honey dried prepn. as dietetic foodstuff - for treating nervous and sleep disorders and counteracting side effects of pharmaceuticals
KLOSA J 10.05.79-DT-919059
B05 (20.11.80) A23c-17 A23l-01/30 A61k-35/64

New dietetic foodstuff is a buttermilk/honey prepn. (I) in dried form. The foodstuff can be used for the dietetic and curative treatment of sleep disorders and nervous disturbances, and for eliminating and normalizing the injurious side effects of medicaments of synthetic or plant origin.

(I) has a pleasant, sweet-sour flavour. (I) can be used alone or in combination with other plant extracts, plants, or synthetic active substances, in dietetic foods or in pharmaceutical prepns. It is pref. used as a carrier for pharmaceuticals such as aspirin. 10.5.79 as 919059(16pp)

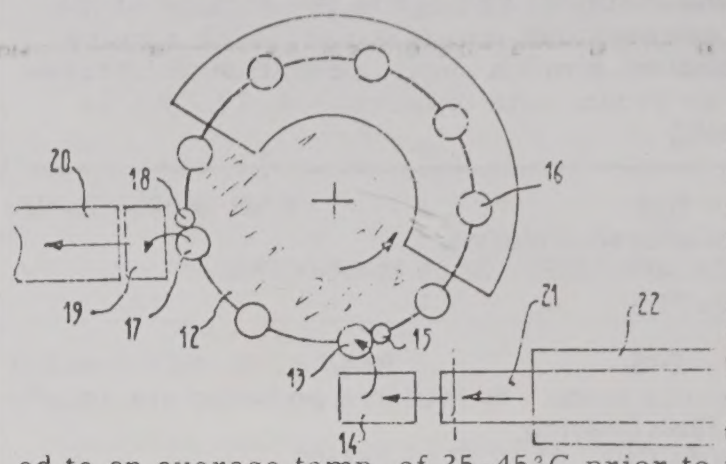
UNIL ★ D13 84812 C/48 ★DT 3018-089
Ice confectionery mouldings extraction - facilitated by moulds with spreadable slits
UNILEVER NV 11.05.79-GB-016418
(20.11.80) A23g-03/18 A23g-09/04

Mouldings of ice confenctinery, e.g. in the shape of a sphere on a stick or an inverted letter P are produced in thin moulds of elastic material. The mould for a sphere, e.g. contains a top recess with a central core leading to the spherical cavity and four pairs of radial walls which face each other and are pressed together by the refrigerant. During the extn. of the moulding these walls splay open and allow the sphere to be extracted. A slot opens out in a similar way when an inverted letter P has been frozen and is to be extracted.

This allows even complex shapes of ice confectionery to be extracted from a mould. 12.5.80 as 018089(17pp39)

CHAN/ ★ D13 84838 C/48 ★FR 2448-287
Preparing small portions of cheese for packaging - by cutting block into portions which are warmed, moulded and cooled
CHANET J 07.02.79-FR-003564
P13 (10.10.80) A01j-25/12

Process includes the following stages: (1) a large block of cheese is cut into portions; (2) each portion is warmed to soften it sufficiently for moulding; (3) each portion is formed in a mould; (4) each moulded portion is cooled.



The temp. of the original block is pref. between 0° and 10° and the portions are warmed to an average temp. of 25-45°C prior to moulding. Cooling is pref. effected in weak brine at 0°C.

A series of horizontally split moulds are pref. arranged around the edge of a horizontal carousel. Each mould in turn moves to a loading station to be charged with a warmed portion of cheese. The mould is closed to form the portion and the carousel moves the mould to a discharging station. Used in prepg. small portions of cheese for packaging. 7.2.79 as 003564 (9pp448).

ANVR ★ D13 84840 C/48 ★FR 2448-296
Controlling butyric fermentation in cheese by detecting hydrogen - which is extracted by pump via probe and indicator reagent
AGENCE NAT VALORISATION 06.02.79-FR-003556
S03 (10.10.80) A23c-19 G01n-33/04

A sample of gas is withdrawn from the interior of a cheese. The sample is analysed to detect the presence of hydrogen or other gas or volatile arising from the fermentation.

Pref. a tubular probe is pushed into the cheese and connected to the suction side of a pump via a transparent tube contg. a reagent which changes colour in the presence of hydrogen. The indicating reagent is pref. downstream of a catalyst which produces combustion of the hydrogen in the presence of air contained in the sample. The resulting water is used to react with the indicator. The sample gas is pref. passed through a dessicant before it reaches the catalyst. The gas sample is pref. always of constant volume by virtue of being withdrawn by a volumetric pump. The transparent indicator tube will then have a longitudinal scale with graduations indicating the concn. of hydrogen gas in the sample.

The indication is related directly to the generation of hydrogen gas arising from butyric fermentation. The result is instantly available, rather than having to wait several days for analysis of butyric spores, which, in any case, is not direct evidence. 6.2.79 as 003556 (10pp448).

LAGU/ ★ D13 84848 C/48 ★FR 2448-377
Energy saving evaporating concn. of solns. like skimmed milk - using mechanical compressor to boost steam returned to heat first effect
LAGUILHARRE P 08.02.79-LU-080899
(10.10.80) A23l-02/10 B01d-01/28

The process is of the type employing a single or multiple effect evaporator. Part of the vapour arising in one effect is fed to a steam ejector thermocompressor which delivers steam for heating the first effect of the evaporator.

A mechanical compressor is now installed in series with the thermocompressor. The mechanical compressor pref. discharges into the thermocompressor and/or drains vapour from the final effect of the evaporator.

Used for the concn. of solns. partic. heat-sensitive foods such as skimmed milk, fruit juices. There is a

edn. in energy required for evapn. by introducing the mechanical compressor, which requires negligible electric power, the steam requirement of a single effect evaporator is reduced in the ratio 24:18, for a double effect 22:13 and for a triple effect 17:9. 3.1.80 as 000058 (8pp448).

BROH/ ★ D13 84883 C/48 ★FR 2448-850
Air circulation drying chamber for food prods. esp. cheeses - uses refrigeration evaporator to dry and condenser to warm circulated air
BROLHIER Y P J 19.02.79-FR-004335
P13 (17.10.80) A01j-25/16

Drying is by dehumidifying circulated air by passing it through the evaporator of a vapour compression refrigeration system to condense out moisture. The refrigeration condenser is used to warm the circulated air.

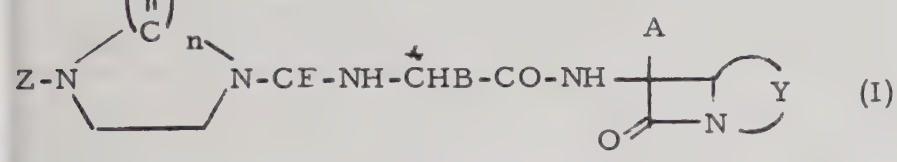
Air leaving the chamber is now split into two parallel circuits. A first circuit dries air by cooling it on the evaporator. The second circuit warms air on the condenser. Air from both circuits is brought together to produce a single air current which is returned to the chamber to dry the cheeses.

A thermostat is pref. installed to actuate a supplementary fan and atmos. damper which flushes external air through the condenser.

Method is used for drying food prods. esp. cheeses. 19.2.79 as 004335 (5pp448).

FARB D13 82442 A/46 =GB 1579-799
Antibacterial, growth promoting penicillin and cephalosporin cpds. - are imidazolidinyl-carbonyl and pyrazinyl carbonyl substd. derivs.
BAYER AG 07.05.77-DT-720579
*A60 B02 C02 (D22) (26.11.80) *DT2720-579 A61k-31/39 C07d-499/64 C07d-501/20*

β-Lactams of formula (I) as either R or S configurations and their diastereomers are novel. A is H or OMe, B is Ph opt. substd. by OH halogen, OMe, CN and/or SO_2M3,



(I)

thienyl, cyclohexenyl, 1,4-cyclohexadien-1-yl, or furyl; E is O or S and n = 1 or 2.

Y is a gp. of formula -S-CMe_2-CH(COH)- or -U-CH_2-$C(CH_2T)$=$C(CO_2H)$- (in which the C atom carrying the carboxyl gp. is bonded to N atom in β-lactam ring; T is H, alkyl-CO-O-, OH, pyridinium, aminopyridinium, carbamoyloxy, azido, CN, opt. N-substd. thiocarbamoylthio, opt. substd. S-phenyl, or S-Het gp. where Het is opt. substd. 5- or 6-membered ring and when T is (amino) pyridinium, the carboxyl gp. is in the form of carboxyl anion and V is O, S or -CH_2-.

Z is a gp. of formula -CR_1=CR_2R_3 or -CR_1(OH)CHR_2R_3 (in which R_1-3 are H, 1-5C (substd.) alkyl or R_2 and R_3 together form 2-7C (substd.) cycloalkyl ring and opt.-contains ⩾1 of O, S, SO, SO_2 or NR^1 (where R^1 is H, 1-6C alkyl or 1-6C alkylcarbonyl) as ring members.

(I) are antibacterial agents used for promoting growth and for improving feedstock utilisation in animals.
2.5.78 as 017484 (20pp977)

BIOT- D13 86038 A/47 =GB 1579-823
Flavouring of spun protein fibres - by effecting coagulation and/or neutralisation in aq. baths contg. nitrogen organic acids
BIOTECHN PROC LTD 21.04.76-GB-016084
*(26.11.80) *US4125-634 A23j-03 +D01f-04/06*

Spun protein fibres are made by spinning, coagulating, optionally stretching, neutralising and washing. One or more steps are carried out in a treatment bath contg. a N-contg. organic acid or salt or organic buffering agent in sufficient amt. to provide the principal buffering capacity, the treatment agent not being completely washed out of the fibres.

One or more of the treatment baths pref. includes hydrolysed or autolysed protein or a compounded meat flavour derived from protein hydrolysate, and a crude amino acid containing aqueous extract of animal, vegetable or microbial material. 20.4.77 (+21.4.76-GB-016084)(10pp1358)

MRSC D13 90052 Y/51 =GB 1579-926
Stabilisation of protein foodstuff of high water content - using an acid-producing bacteria and a low pH level
MARS INC 17.06.76-GB-025162
*C03 (26.11.80) *BE-855-758 A23b-04 A23k-01*

A proteinaceous food prod. has a moisture content >50 wt. %, contains solid animal and/or vegetable protein, and is preserved against microbiological spoilage by a pH value ⩽4.5. The long-term microbiological stability of the prod. is enhanced by the presence of viable acid-producing bacteria and available fermentable carbohydrate. Pref. the prod. contains food grade acid in amt. sufficient to lower the pH to ⩽5.0 and active bacteria to lower the pH to its final value.

Compsns. comprising particles or pieces of meat or other edible protein solids in a gelled or thickened aq. medium, e.g. brawns, meat-in-jelly and meat-in-gravy are esp. preserved by this method. 14.6.77 as (7pp931)

KANE- D13 80436 A/45 =GB 1579-992
Granulated bean paste mfr. - by strip extrusion at specified moisture content into vacuum chamber followed by granulation
KANESA MISO KK 20.04.77-JA-045440
*(26.11.80) *DT2817-086 A23l-01/20*

Granular fermented soybean paste is made by extruding paste strips with 20-30% moisture content into a chamber under a vacuum of not more than 4.6 Torr so that the water is instantly evaporated and the strips are cooled so that they are hardened and maintain their form without mutual adherence, the strips then being granulated.

The moisture content is pref. 24-27% and before extrusion the paste is sheared at high velocity to be evenly mixed and form a mass with uniform water content. The granules obtained are pref. further crushed to the required size and dried. The granules are instantly soluble in water. 10.4.78 as 014018 (3pp1258)

MAIS- D13 28863 A/16 =GB 1580-013
Demoulding frozen fluid esp. food from flexible plastic mould - with hot water spray followed by hammering
MAISON D BOIRON 25.01.77-FR-002786
*Q75 (26.11.80) *BE-861-804 +F25c-01*

Liquid or paste is frozen or deep-frozen by introducing into chambers of a deformable plastics mould, passing through a freezer, and spraying hot liquid onto the mould bottom to soften the mould wall without unfreezing the product, then hammering to eject the product.

The mould is pref. at least partially dried after heating and before hammering. The moulds are pref. carried to the ejector on a conveyor with bottoms uppermost and a spray pipe is located transversely above the conveyor. There is pref. a series of hammers on the ends of arms fixed radially on a common oscillating transverse shaft. The method permits simple efficient removal of product. 18.1.78 as 002078 (6pp1358)

UNIL D13 88262 Y/50 =GB 1580-051
Protein, esp. soya prepn. from defatted soya flour - by treating with alkali metal chloride at pH 9-12 then separating the protein
UNILEVER LTD 11.06.76-GB-024351
*(26.11.80) *BE-855-597 A23j-03 A23l-01/20 +C07g-07*

A vegetable protein prod. is prepd. by forming anaq. slurry of defatted vegetable protein-contg. material, subjecting it to alkaline conditions of pH 9-12 in the presence of 0.2-1M of alkali metal halide, and separating the released pigments and off-flavour components formed in the mixt.

Pref. the starting material is defatted soy meal, and the wt. ratio of solids to liq. in the slurry is 1:5-30. The alkaline conditions are ontd. by the addition of an alkali metal hydroxide to pH 10-11, and the halide is NaCl added to a concn. of 0.35-0.70 M.

The prod. is esp. used in the form of flours, concentrates or isolates, and have high functionality with good oganoleptic properties. 10.6.77 (5pp931)

OCEA- ★ D13 84953 C/48 ★GB 2047-068
Decolourisation of pink grapefruit juice - by vacuum filtration through coarse diatomaceous earth
OCEAN SPRAY CRANBER 20.04.79-US-032094
(26.11.80) A23I-01/27

Pink grapefruit juice or juice concentrate is decolourised by vacuum filtration through a bed of coarse diatomaceous earth of which ⩽ 80% has a particle size >10 micrometers at a pressure differential 10-25 ins. Hg and flow rate 0.1-0.5 gals/min/sq.ft. The citrus redness is decreased by 10-25 units and citrus yellowness by 1-10 units as measured by a Hunter colourimeter, and the total pulp content is reduced by 50-90%.

After removal of the colour bodies, which turn brown with age or heat treatment, the juice can be blended with white grapefruit juice to give a seleable prod. 16.4.80 as 012568 (3pp955)

NODA- ★ D13 C/48 ★IT 1047-001
Prepn. of sterilised, canned milk products
NODAWAY VALLEY FOOD 22.06.64-US-376693
(10.09.80) A23c

YUKI- ★ D13 85027 C/48 ★J5 5131-346
Powdery or granular lactic acid drink prepn. - by adding pectin or carrageenan and alkali tert. phosphate to powdery fermented milk of low fat content
YUKIJIRUSHI SHOKUHI 31.03.79-JA-037695
(13.10.80) A23c-09/13

Method comprises combining (a) 1.0-6.0 wt.% of pectin or carrageenan and (b) 1.0-8.0 wt.% of alkali tert. phosphate in (c) the powdery fermented milk having fat content < 5.0 wt.%, combining sweetener and if required other additives such as powdery milk, fruit juice, acidulant, colorant, perfume, etc. in the mixt. and drying the mixt., as it is or after granulating it, to moisture content < 3 wt.%.

Powdery or granular lactic acid drink which is highly preservative and not deliquescent and can be easily dissolved or dispersed uniformly in milk of water is obtd.. 31.3.79 as 037695 (3pp5).

KIBU- ★ D13 85028 C/48 ★J5 5131-360
Food additive for improving meat, fish etc. - contg. arginine or acidic arginate
KIBUN KK 27.02.79-JA-021331
(13.10.80) A23I-01/22

Food additive is claimed contg. arginic acid or acidic arginate at least partly and can be used for improving the properties and taste and flavour of the meat of fish, shell fish, animal and fowl, starch and protein. Objective food additive can be used by any of the following: (1) using arginic acid along in the form of a soln. or the dispersion obtd. by dissolving or dispersing arginic acid in water, various aqueous solutions or liquid seasonings or using arginic acid mixed with solid seasonings; (2) using (a) the water difficultly soluble arginate contg. acidic water difficultly soluble arginate at least partly as it is, to use the arginate(a) in the form of a dispersion obtd. by dispersing (a) in various aq. solns. or liq. seasonings or to use (a) in the form of its mixt. with solid seasonings; or (3) using acid-treated phaeophyta obtd by reacting phaeophyta with e.g. H_2SO_4, HCl, oxalic acid, citric acid, tartaric acid, etc., as it is or using the acid-treated phaeophyta in the form of its mixture with liq. or solid seasonings.

Food additive is safe and inexpensive and with it the meat of fish, shell fish, animal and fowl, starch and protein can be improved in physical properties, processing property, texture and/or taste and flavour remarkably. 27.2.79 as 021331 (12pp5).

AJIN ★ D13 85029 C/48 ★J5 5131-361
Crab-flavoured seasoning compsn. - contg. crab shell extract, aminoacid, 5' nucleotide, inorganic salts and sugar
AJINOMOTO KK 02.04.79-JA-039618
E19 (13.10.80) A23I-01/22

Compsn. is prepd. by combining crab shell extract in compsn. contg. (a) ⩾ 50% amino acid, of which ⩾ 40% is glycine, ⩾ 40% is arginine-glutamate and ⩾ 10% is alanine; (b) ⩾ 2% 5'-nucleotide, of which ⩾ 50% is Na 5'-guanylate; (c) ⩾ 30% inorganic salt, of which ⩾ 20% is K ion, ⩾ 40% is phosphate ion and remaining 40% is Na ion and Cl ion; and (d) ⩾ 1% sugar. Crab shell is pref. previously crushed and extracted with hot water, ethanol, dilute acid, etc., e.g. 1 pt. crushed crab shell is extracted by heating with 3-10 pts. water for 10-60 minutes. Crab shell extract is combined in amt. 2-20%.

Crab meat is very expensive and seasoning compsn. has flavour of crab meat. Compsn. of crab meat contg. glycine, arginine, alanine, glutamic acid, 5'-adenylic acid, 5'-cytidylic acid, 5'-guanylic acid, sodium ion, chlorine ion, phosphate ion, potassium ion and betain as essential ingredients, lacks crab flavour and natural feel. Crab shell contains substances with crab flavour and natural feel of crab and by combining crab shell extract in the compsn. with flavour of crab is obtd.. 2.4.79 as 039618 (4pp5).

LIOC ★ D13 85030 C/48 ★J5 5131-364
Sweetener which suppresses microbes in mouth, preventing tooth decay - comprises sucrose fatty acid ester with high mono:ester content in sucrose obtd. from cane, beet or sugar maple
LION DENTIFRICE KK 00.00.80-JA-033636 (27.04.76-JA-047166)
B03 E13 (13.10.80) A23I-01/23

Sweetener is obtd. by combining the sucrose fatty acid ester having monoester content 60-100 w/w%, in > 80 w/w% of sucrose obtd. from cane, beet or sugar maple, with the object of suppressing the formation of acids from sucrose.

Pref. water soluble and heat-stable monoester is used and the sucrose fatty acid ester has a monoester content 60-100 w/w% pref. 70-100 w/w%. Pref. the sucrose fatty acid ester has 8-20C fatty acid, opt. satd.. The sucrose fatty acid ester is combined 0.02-20 w/w% in the sweetener.

Sucrose fatty acid ester with high monoester content, can suppress the activity of the microbes in mouth and thus suppresses the formation of acid from sucrose. Therefore the tooth decay caused by sucrose can be prevented. 27.4.76 as 33636/80 Div.ex. 047166/76 (8pp5).

YUKI- ★ D13 85031 C/48 ★J5 5131-365
Corned-beef-like food having low oil and fat content - comprises fibrous meat of vegetable protein uniformly dispersed in solid cooked or uncooked gelatin and/or agar
YUKIJIRUSHI SHOKUHI 03.04.79-JA-039334
(13.10.80) A23b-04 A23j-03 A23I-01/31

Fibrous meat or vegetable protein is uniformly dispersed in solid cooked or uncooked gelatin and/or agar. The food is prepd. by e.g. (a) dispersing 10-30 wt.% fibrous meat or vegetable protein in 70-90 w/w% of mixed soln. which is prepd. by adding ⩾1 of guar gum, locust bean gum, carrageenan, pharcelan, tragacanth gum and starch, to (un)cooked soln. of gelatin and/or agar, (b) packaging the dispersion in cans, casings, etc. tightly, heat-sterilising them and (c) cooling.

Fibrous meat or vegetable protein can be uniformly dispersed in soln. of gelatin and/or agar . Natural gum is pref. added in amt. of 0.2-1.0 wt.% to the soln.. 3.4.79 as 039334 (4pp5).

TAIC ★ D13 85032 C/48 ★J5 5131-375
Prevention of food oxidation - by use of organic extract of rosemary, citric acid and decomposed protein e.g. gelatin or casein
TAIYO CHEMICAL IND KK 30.03.79-JA-038477
(13.10.80) A23d-05/04 A23I-03/34

Oxidation of food is prevented by use of (a) extract obtd. by extracting rosemary or sage with organic solvent e.g. ethanol or hexane, (b) citric acid and/or (c) decomposed protein e.g. gelatin, casein, etc.. Usually the extract(a), citric acid(b) and the decomposed prod. of protein(c) are used < 0.02 w/w%, < 0.02 w/w% and < 1 w/w% on food respectively and it is convenient to prepare the compsn. composed of (a), (b) and (c) with the wt. proportion ca. 2:1:7.

Extract of rosemary and sage show similar antioxidising effect to BHT, their antioxidising effects increase

nergically by using them with citric acid or the decomsed prod. of protein. Their antioxidising effect can be rther increased synergically by using them together th citric acid and the decomposed prod. of protein. ntioxidant has weak antioxidising effect on vegetable oil d fat and strong antioxidising effect on animal oil. .3.79 as 038477 (3pp5).

ACC ★ D13 C/48 ★J5 5132-687
oduction of tri:halomethane(s) in beverage soln.
FMC CORP 29.03.79-US-025179
(15.10.80)
.3.80 as 039147.

OSH/ ★ D13 85166 C/48 ★J5 5132-696
ecolouring agent for waste water - obtd. by culturing Diatrithium .C-39 microorganism
HOSHINO K 08.03.79-JA-026201
(D16) (15.10.80) C02f-03/34
ecolouring agent for coloured waste water, consists of ffective ingredient in the cultured medium, cell and xtracts of cell of Diatrithium Sp. C-39 (FERM No. 844).

Coloured materials in waste water from food industes e.g. waste from waste sugar fermentation, which an not decompose by conventional biochemical clarification method such as activated sludge method using pherotilus, Zooglea and Pesudomonas microorganisms s completely decoloured and, BOD and COD components re significantly reduced by this agent.

In an example a shaking culture of Diatrithium Sp. C-39 as cultured in a broth contg. 0,1% of sugar waste for 8 ays at 30°C to yield medium used as water clarifying gent. The agent was also effective for removing of alcolic materials and melamine dyes in waste water. Clarfying performances of the waste water of alcohol fermention with the use of the agent recorded removal ratio by 4,5 - 97.2% BOD and 56.8-77,6% COD materials, and ecolouring ratio was 58.7-95.1%. 8.3.79 as 026201 6pp168).

NIOF ★ D13 85316 C/48 ★J5 5133-480
Antioxidant compsn. - comprising tocopherol, gallic acid, ethyl alcohol and tri:glyceride of intermediate chain length
NIPPON OILS & FATS KK 06.04.79-JA-041038
E19 (17.10.80) A23d-05/04 C09k-15/08
Antioxidant comprises 10 - 60 wt.% tocopherol, 0.5 - 5.0 wt.% gallic acid, 10 - 30 wt.% ethyl alcohol and 10 - 60 wt.% triglyceride having intermediate chain.

In an example, 1.5 g of powdery gallic acid having 4 wt.% moisture content was charged in a flask (200 ml vol.) and 15 g ethyl alcohol having 99 wt.% purificn. degree was added with an agitating and a solubilising step. 33.5 g of triglyceride having intermediate chain and saponification number 351 was added with shaking and 50 g of natural mixed tocopherol contg. 60 wt.% purified tocopherol was added. 100 g of transparent antioxidant was obtd.. Antioxidant has superior antioxidative effect in comparison with conventional antioxidant e.g. butylhydroxy-anisole on purified palm oil.

Antioxidant is used for preventing oxidn. of vegetable oils, animal oils (e.g. beef tallow) and marine prod. oils. 5.4.79 as 041038 (3pp15).

ASAE D13 11757 Y/07 =J8 0042-608
Plastic fat compsn. contg. fatty acid esters - for use in prodn. of cake and bread
ASAHI DENKA KOGYO 20.06.75-JA-075299
*(D11) (31.10.80) *J51151-372 A23d-05 A23g-03 + A21d-02*
50-95Wt.% of fat and 5-50wt.% of water is emulsified in the presence of 2-10wt.% glycerol ester of fatty acid, calcium stearyl-lactate, sugar ester of fatty acid, calcium stearyl-lactate, sugar ester of fatty acid, ascorbic ester of fatty acid, lecithin or sorbitol ester of fatty acid. The emulsion cooled rapidly then plasticised. In the plasticising process, gas is dispersed uniformly into the emulsified fat at 10-50 cc./100 g.

The plastic fat compsn. has SFI (Solid Fat Index) of 15-35 at 20°C, 5-25 at 30°C, 2-15 at 37°C. SFI difference at 20°C and 30°C is below 25. The penetration of manufactures (sic) produced from the plastic fat compsn. is 20-100 mm. at 10°C and 30-200 at 20°C when it is tested by corn penetrometer of ASTM D-217-60T. 20.6.75 as 075299. A21d 2/00; A23d 5/00; A23g 3/00 (31.10.80) ASAHI DENKA KOGYO KK (7pp)(J51151372)

AJIN D13 18297 A/10 =J8 0042-612
Artificial feed for silkworm - contg. propionic acid or its salt and acetic acid or its salt, increasing cocoon yield and wt. of cocoon layer
AJINOMOTO KK 10.07.76-JA-082418
*C03 (31.10.80) *J53007-488 A23k-01/18*
Artificial feed for silkworm contains propionic acid or its salt and acetic acid or its salt in an amt. (x) where $0.25 \leqslant x \leqslant 1.0$.

The basic artificial feed is obtd. by blending mulberry leaf powder, defatted soya bean, corn powder, various vitamins, various inorganic salts and various attractants. The feed is partic. effective on admin. after the fourth larval stage.

The amt. of propionic acid and acetic acid has to be controlled carefully, as too little is ineffective, and too much damages the silkworm. 10.7.76 as 082418. A23f 1/18 (31.10.80) AJINOMOTO KK (3pp)(J53007488)

AMAN ★ D13 85558 C/48 ★J8 0042-613
Powdery foodstuff or feedstuff mfr. - by addn. of lipase obtd. from Pseudomonas species which is not activated by cholic acid
AMANO PHARM KK (MORG) 28.06.73-JA-072312
C03 (D16) (31.10.80) A23l-01
To foodstuff or feedstuff is added lipase which is obtd. by cultivation of Pseudomonas sp. No. 156-A (FERM 1431) and which is not activated by cholic acid. High absorbability of lipids is attained. 28.6.73 as 072312. A23 1/00 (31.10.80) AMANS PHARM. KK; MORINAGA MILK KK (10pp22)(J50019944)

CALP- D13 08021 Y/05 =J8 0042-615
Quick cooking rice prepn. - by puffing up, adding edible thickener, gelatinising, drying and reshrinking (BE170177)
CALPIS SHOKUHIN KOG 16.07.75-JA-086156
*A97 (31.10.80) *DT2632-121 A23l-01/18*
Quick-cooking rice is prepd. in several steps: (a) raw rice is puffed up to 6-16 x its vol.; (b) at least one edible thickener is incorporated and allowed to penetrate into rice grain core; (c) thickener is gelatinised; (d) rice-grains are dried and re-shrunk to form grains having a porous structure.

Rice is easily re-constituted in water at $\geqslant$80°C with formation of boiled rice, e.g., for pilau or baked curry rice. Prod. is obtd. in good yields and resists storage. Thickeners may be natural polysaccharides or their derivs. or synthetic thickeners. Thickeners which can be gelatinised with metal ions are prefd. 16.7.75 as 086156. A23 1/182 (31.10.80) CALPIS SHOKUHIN KOGYO (3pp) (J52010437)

CALP- D13 08021 Y/05 =J8 0042-616
Quick cooking rice prepn. - by puffing up, adding edible thickener, gelatinising, drying and reshrinking (BE170177)
CALPIS SHOKUHIN KOG 16.07.75-JA-086157
*A97 (31.10.80) *DT2632-121 A23l-01/18*
Quick-cooking rice is prepd. in several steps: (a) raw rice is puffed up to 6-16 x its vol.; (b) at least one edible thickener is incorporated and allowed to penetrate into rice grain core; (c) thickener is gelatinised; (d) rice-grains are dried and re-shrunk to form grains having a porous structure.

Rice is easily re-constituted in water at $\geqslant$80°C with formation of boiled rice, e.g., for pilau or baked curry rice. Prod. is obtd. in good yields and resists storage. Thickeners may be natural polysaccharides or their derivs. or synthetic thickeners. Thickeners which can be gelatinised with metal ions are prefd. 16.7.75 as 086157. A23 1/182 (31.10.80) CALPIS SHOKUHIN KOGYO (3pp) (J52010438)

ASAE D13 19279 Y/11 =J8 0042-617
Stable fo eable oil-in-water emulsified fats - comprising oil and fat, skim milk and emulsifier
ASAHI DENKA KOGYO 24.07.75-JA-090455
*(31.10.80) *J52015-857 +A23I-01/19*
30-60Wt.% oil and fat is mixed with 70-40wt.% skim milk in the presence of 0.3-20wt.% oleophilic emulsifier. This comprises sucrose fatty acid ester of HLB 1-3, sorbitan unsatd. fatty acid ester and monoglyceride of iodine value >40.

The w/o emulsion is sterilised and homogenised at 20-150 kg./cm^2 to convert it to o/w-type emulsion. It is then rapidly cooled. Alternatively the w/o emulsion is homogenised to convert it to o/w-type emulsion, sterilised, homogenised at 20-150 kg./cm^2 and cooled rapidly. 24.7.75 as 090455. A231 1/19 (31.10.80) ASAHI DENKA KOGYO KK (9pp)(J52015857)

KIKK ★ D13 85559 C/48 ★J8 0042-618
Prepn. of soy sauce with high glutamic acid content - by incubating and cultivating Aspergillus soya 262 mutant strain
KIKKOMAN SHOYU KK 16.08.73-JA-091330
(D16) (31.10.80) A23I-01/23
Material for prepn. of soy sauce is incubated with Aspergillus soya 262 which is mutant of Aspergillus soya, followed by cultivation. Resultant soy sauce contains large amt. of glutamic acid. 16.8.73 as 091330. A231 1/238 (31.10.80) KIKKOMAN SHOYU KK (5pp22)(J50042097)

UEDA- D13 38949 X/21 =J8 0042-620
Enzyme prodn. for use in soy mfr. - using culture medium contg. protein and carbohydrate with reduced carbohydrate requirements
UEDA KAGAKU KOG KK 01.10.74-JA-113602
*(D16) (31.10.80) *J51041-500 A23I-01/23*
A koji mould for prodn. of soy is cultured in a culture medium contg. protein and carbohydrate at a wt. ratio of 1/5-4/5 and the obtd. koji is kept at 0-15°C for 10-40 hrs. in the presence of an NaCl soln. with NaCl concn. ≮ 3% for ≥1 hr. Then ≮ 1/2 of the solid matter is sepd. to leave a liq. The liq. is then concd. or dried into powder and if needed protease, amylase and/or hemicellulase added. The enzyme improves preservability of soy and prevents contamination with bacteria. Thus a stabilised and even prod. can be obtd. and amt. of carbohydrate material used can be reduced by ~20%. 1.10.74 as 113602. A231 1/238 (31.10.80) UEDA KAGAKU KOGYO KK (8pp)(J51041500)

KIKK D13 56516 Y/32 =J8 0042-621
Seasoning soln. prepn. - by digesting koji in salt soln. of specific concentration
KIKKOMAN SHOYU KK 23.12.75-JA-152908
*(31.10.80) *J52076-488 A23I-01/23*
The method comprises digesting 'koji' at 30-55°C with stirring under a salt concn. corresp. to the digesting temp. found in a given diagram and obtaining a digested prod. having pH >5.5.

The digestion can be practised with high N-utilising ratio and high converting ratio for amino acids. Seasoning soln. excellent in taste, flavour and colour can be prepd. in 20-120 hrs.

The soln. is used in e.g., soy sauce.

It is found that putrefaction and the acidification of the digested prod. can be prevented by practising the digestion with stirring under specific salt concn. and specific digesting temp. related mutually. 23.12.75 as 152908. A231 1/238 (31.10.80) KIKKOMAN SHOYU KK (9pp) (J52076488)

NAKA- D13 07568 A/04 =J8 0042-622
Storage stable syoyu prepn. - by adding edible vinegar soln. contg. e.g. sodium bi:carbonate to raw syoyu before or after sterilising
NAKANO SU TEN 04.06.76-JA-064551
*(D16) (31.10.80) *J52148-698 A23I-01 '23 + A23I-03 '34*
The method comprises adding edible vinegar soln. obtd. by adding ≥1 of egg shell, $NaHCO_3$ or NaOH to edible vinegar so that the amt. of the additive is 0.29-1.10% based on a acetic acid and the amt. of thus formed acetate exceeds the amt. of free acetic acid, to raw syoyu after or before the sterilising process.

The edible vinegar soln. is added so that acetic acid concn. in obtd. syoyu is 0.02-0.2%. When egg shell or $NaHCO_3$ is used singly, they are added in an amt. of 0.6-1.10% based on edible vinegar. When NaOH is used, it is added in an amt. of 0.29-0.53% based on edible vinegar.

Highly preservative syoyu can be prepd. with no deterioration in taste and flavour. 4.6.76 as 064551. A231 1/2 3/34 (31.10.80) NAKANO SU TEN (3pp)(J52148698)

HOUS- ★ D13 85560 C/48 ★J8 0042-62
Prepn. of powder contg. active lactobacilli - by cultivatin lactobacilli on animal milk, neutralising, adding powdered mi and inorganic salt and drying
HOUSE SHOKUHIN KOGY 19.01.73-JA-008430
(D16) (31.10.80) C12n-01/20
Lactobacilli is cultivated on animal milk, pH is adjusted to neutral range, 10-50wt.% powdery milk is added, inorganic salt is further added, and then the resultant is dried under vacuo. 19.1.73 as 008430. C12n 1/20 (31.10.80) HOUSE SHOKUHIN KOGYO KK (5pp22)(J49094867)

IDEK D13 52614 Y/30 =J8 0042-63
Gel-forming polysaccharide prepd. by Arthrobacter cultivation contains glucose, mannose, dihydrostreptose and carboxyethy rhamnose
IDEMITSU KOSAN KK 19.01.76-JA-004051
*A11 B07 C03 (A96 A97 D16) (31.10.80) *DT2701-312 C08b-3*
C12p-19/04 C12r-01/06
New gel-forming polysaccharide (I) consists of (A) glucos (B) mannose, (C) dihydrostreptose and (D) 3-o-(1'-carbox ethyl)-L-rhamnose. Mol. ratio of these components is (A) (B): (C):(D) 10:10:1-3:3-8. (I) contains 8-14 wt.% O-acety gps. calculated as AcOH, and has av. mol. wt. 8,000,00

(I) can be used in food industry, as thickener, tackifier gelling agent, tissue restorer, coagulant for suspended particles. In medicine or agriculture (I) can be used as adhesive, flocculant, gelling agent, for explosives, as a fire-fighting component, in water-soluble paints and as abrasive. 19.1.76 as 004051 C12p 19/04 C12r 1/06 C08b 37/00(31.10.80)IDEMITSU KOSAN KK(13pp)(J52090695)

NEST D13 36485 V/20 =J8 0042-810
Porous, expanded meat-like food mfr - from a finely divided food material, e.g. corn starch, a sugar, an amino acid and a sulphur-contg cpd
SOC PROD NESTLE SA 21.11.72-CH-016909
*(01.11.80) *BE-806-699 A23j-03*
The mixt. comprising the finely divided food material, ≥1 hexose or pentose, ≥1 amino acid or sulphur-amino acid and the S-contg. substance, contains 18-45% water and is heated to ≥150°C under a pressure which is not less than the satd. vapour pressure of water at the above working temp., the pressure is then rapidly decreased so as to induce vapourisation of the water in the mixt. and forms a porous, expanded structure. Pref. the mixt. is heated at 160-180°C/5-150 atmos./10-30 secs. and advantageously is passed through an extrusion head opening into a medium of low pressure, e.g. ambient atmos. such that vapourisation of the water occurs, leaving the desired porous, expanded prod. 20.11.73 as 129810 (clg. 21.11.72-CH-016909) A23j 3/00 (1.11.80) SOC. DES PROD. NESTLE S.A (5pp)(J49081564)

NAKA- ★ D13 85562 C/48 ★J8 0042-812
Prepn. of soy sauce or seasoning contg. soy sauce - adding liq. or extract of plant of Hosta genus to improve storage stability
NAKANO SU-MISE KK 30.06.78-JA-078641
(01.11.80) A23I-01/23
In the prepn. of soy sauce or seasoning agent from soy sauce, squeezed liq. or extract of the squeezed liq. of plant belonging to the genus Hosta is added. The prod. can be stored for long periods. 30.6.78 as 078641. A231 1/238 (1.11.80) NAKANO SU-MISE KK (7pp22) (J55021703)

NAKA- ★ D13 85563 C/48 ★J8 0042-813
Storage stable soya sauce prepn. - has added Eythronium japonicum plant liq. extract
NAKANO SU-MISE KK 22.08.78-JA-101447
(01.11.80) A23I-01/23
An prepn. of soy sauce or seasoning agent from soy sauce, squeezed liq. of plant belonging to the species Erythronium japonicum or extract of the liq. is added. The resultant can be stored for a long period of time. 22.8.78 as 101447. A23 1 1/238 (1.11.80) NAKANO SU-MISE KK (7pp22) (J55029927)

KIKK D13 54427 A/30 =J8 0042-814
Swelling cereals e.g. rice, corn, soybean etc. - by treating with superheated steam and satd. steam under pressure then discharging to low pressure zone
KIKKOMAN SHOYU KK 30.11.76-JA-142984
*(01.11.80) *J53069-889 A23I-01/23*
The method comprises treating granular or powdery cereals with superheated steam under pressure (at 160-210°C under 3-10 kg./cm^2), then with satd. steam under pressure (at 143-183°C under 3-10 kg./cm^2) and discharging in the space of lower pressure.

In the heating tube the cereals are transferred to the outlet with the superheated steam which is granually converted to satd. steam and thus the cereals can be treated with superheated steam and satd. steam in the heating tube. Finally thus treated cereals are discharged in atmosphere through airtight rotary valve.

Cereals (e.g. soy bean, defatted soy bean, wheat, rice, corn, etc.) can be swollen and the material for brewing 'syoyu', 'miso', etc. can be prepd. effectively. The cereals can be uniformly heat-denatured, thus swollen cereal of high quality can be obtd. 30.11.76 as 142984. A23 1 1/238 (1.11.80) KIKKOMAN SHOYU KK (6pp) (J53069889)

KIKK D13 84592 A/47 =J8 0042-815
Preventing fungi growth on shoyo or miso - by adding ethyl lactate, succinate, malonate, maleate or citrate and opt. heating
KIKKOMAN SHOYU KK 28.03.77-JA-033237
*E17 (01.11.80) *J53118-596 A23I-01/23 A23I-03/34*
The method comprises adding ⩾1 cpd. selected from ethyl lactate, ethyl succinate, ethyl malonate, ethyl maleate and ethyl citrate, to shoyu or miso. Pref. the shoyu or miso is heated ⩾40°C before or after addn. of the cpd.

The active cpd. has fungicidal activity, and also reinforces the flavour of shoyu or miso. Further, the fungicidal effect can be increased synergistically by heating shoyu or miso at >40°C. The active cpd. is non-toxic. Shoyu heated at 45°C for 15 mins. can be stored only for 10 days, whereas shoyu contg. 1% of the active cpd. and heated similarly can be stored for about 60 days and shoyu contg. 2% of the active cpd. and heated similarly can be stored for 135-150 days. 28.3.77 as 033237. A23 1 1/238, 3/34 (1.11.80) KIKKOMAN SHOYU KK (6pp) (J53118596)

KIKK D13 84593 A/47 =J8 0042-816
Preventing fungi on soy or miso - by adding ethanol and at least one of ethyl lactate, malonate, succinate, maleate or citrate and heating
KIKKOMAN SHOYU KK 28.03.77-JA-033238
*E17 (01.11.80) *J53118-597 A23I-01/23 A23I-03/34*
Method comprises adding to soy or miso ethanol and ⩾1 of Et lactate, Et succinate, Et malonate, Et maleate, Et citrate, and heating soy at >40°C before or after addn. of the cpds. No fungi are observed even after 60 days with the soy contg. 0.5% of ethanol and 0.1% of the ester, heated at 45°C for 15 mins.

The amt. of ester is pref. 0.01-3(0.01-1)wt.%, and the amt. of ethanol is 0.3-5(0.5-2)wt.%. 28.3.77 as 033238. A23 1 1/238, 3/34 (1.11.80) KIKKOMAN SHOYU KK (7pp)(J53118597)

UNIL D13 75916 Y/43 =J8 0042-817
Oil-in-water emulsions for sauces and mayonnaises - contg. enzyme-treated phospholipoprotein and thickener
UNILEVER NV 29.04.76-GB-017487
*A97 (01.11.80) *BE-853-877 A23I-01/24*
An oil-in-water emulsion compsn. contains a phospholipoprotein treated by phospholipase A and having a degree of conversion of ⩾55% and ⩾1 thickener. The emulsion is obtd. by adding the treated phospholipoprotein to the oil-in-water emulsion followed by the thickener. Phospholipase A enzyme serves a fatty acid/glycerol link in the phospholipid. Phospholipoproteins are e.g. yeast, casein, blood serum, egg and skimmed milk. The degree of conversion is the % of the phosphatidyl-chaline and -ethanaline hydrolysed.

Prod. is used in sauces and mayonnaises. The use of the treated phospholipoprotein enables less thickener to be used to achieve the required viscosity. Prod. is also less pasty and lower in calories. 28.4.77 as 049829 (clg. 29.4.76-GB-017487) A23 1 1/24 (1.11.80) UNILEVER N.V. (3pp)(J52136966)

AJIN D13 84576 A/47 =J8 0042-818
Eggs imparted with cheese-like taste and flavour - by pickling in mixt. of koji prepd. from rice, salt and ethanol
AJINOMOTO KK 24.03.77-JA-032579
*(D16) (01.11.80) *J53118-550 A23I-01/32 +A23b-05*
Method comprises prepg. 'koji' from rice using Aspergillus or Monascus mould, prepg. 'moromi' by adding ethanol and common salt to the 'koji', pickling the heat-denatured and peeled eggs of fowls such as hens, quails, ducks, etc., and maturing them for 10 days. Cheese-like taste and flavour is imparted to eggs and the hard protein gel of eggs is converted to the soft gel without deteriorating their water-holding property.

Ethanol and common salt are added so that their concn. in 'moromi' is 3-20 w/w% pref. 5-10 w/w% respectively. The maturing is effected at 0-40, pref. 5-35°C for 5-30 days. 24.3.77 as 032579. A23 1 1/32; A23b 5/00 (1.11.80) AJINOMOTO KK (3pp)(J53118550)

TOKK- ★ D13 85564 C/48 ★J8 0042-830
Tangle prepn. method - by cooking with seasoning soln., cutting, drying, coating with salt and coating with seaweed
TOKYO KAJINO KK 11.03.77-JA-027323
(01.11.80) A23I-01/33
Tangle (Shio-fuki-Konbu) is cooked with a seasoning soln. contg. sodium malate, sodium citrate or other carboxylic acid salt together with sugar, table salt, soy sauce, etc., then the resultant is cut and dried and coated with powder for pptes., and finally coated with seaweed. 11.3.77 as 027323. A23 1 1/337 (1.11.80) KOZO MATSUI KK TOKYO KAJINO (3pp22)(J53113054)

DEGS D13 05599 Y/04 =J8 0042-986
Optically pure N-acetyl L-methionine prepn. in high yields - from L-methionine and acetic anhydride
DEUTSCHE GOLD & SILBER 04.07.75-DT-529854
*E16 (04.11.80) *BE-843-775 C07c-149/24 +C07c-148*
N-Acetyl-L-methionine (I) is prepd. by reacting L-methionine (II) with acetic anhydride in the presence of aq. alkali at 20-60°C (pref. 30-50°C) and pH 6.5-10.0 (pref. 7.0-9.5).

(I) is used as a food additive. High yields (>90%) of optically pure (I) are obtd.

The molar ratio of Ac_2O to (II) is pref. 1.05-1.70:1 (esp. 1.10-1.30:1). The alkali is pref. aq. NaOH and is used in an amt. sufficient to provide 1.6-2.1 moles of NaOH and 15-30 moles of H_2O per mole of (II). 30.6.76 as 077694 (clg. 4.7.75-DT-529854) C07c 149/247, 148/00 (4.11.80) DEUTSCHE GOLD-& SILBER (2pp)(J52007922)

ODFO= ★ D13 85732 C/48 ★SU-725-952
Margarine packer - has wrapping metering mechanisms, mounted on rotor, able to move radially and turn, and including plates for closing brick wrapper sides
ODESS FOOD IND TECH 26.01.77-SU-447646
Q31 (08.04.80) B65b-03/12

The margarine blocks packing mechanism includes a rotor with portion meters the mechanism for wrapping product and for paper feeding and cutting. Each wrapping mechanism is mounted on the rotor and includes U-shaped plates for closing the blocks sides. The plates are moved by arms mounted onlevers whose rollers follow cams. Each meter's bottom is operated by a cam. Each meter chamber is connected to the material feed. The paper feed includes roll and system of rollers. The label on the packet is orientated by means of a probe, roller, cam and system of levers.

Blogodarskii, V. A. . Spivak, B. I., Beletskii, V. Ya. , et al
Bul. 13/5.4.80. 26.1.77. as447646(4pp121).

AUBO= ★ D13 85859 C/48 ★SU-727-687

Flammulina velutipes fungal strain - is cultured on sugar-contg. waste for use in food or as animal feed protein supplement

AS UKR BOTANY INST 10.11.77-SU-541411

C03 (15.04.80) C12d-13/06 C12k-03

Mycelium of fungal strain Flammulina velutipes 1BKF-112 has mushroom-like flavour and can be used in prodn. of foodstuffs or a dried fungal biomass can be used as animal feed additive.

The new strain was obtd from fruit bodies of Flammulina velutipes and cultured by submerged or surface method on liquid nutrient contg. molasses or sugar-contg. agricultural or food ind waste.

The biomass after drying at 40°C retains its mushroom flavour for several months. It has high protein content with complete set of essential amino-acids.

Dudka, I. A. , Bukhalo, A. S. , Solomko, E. F. , et al
Bul. 14/15.4.80. 10.11.77. as541411(5pp938).

LENL ★ D13 85860 C/48 ★SU-727-688

Vegetable hydrolysate processing for use in yeast growing - includes treatment with aq. alkali before sulphuric acid inversion and ammonia neutralisation to remove colloidal particles

LENINGRAD FORESTRY ACAD 25.07.77-SU-510519

C03 (15.04.80) C12b-03/08 C13k-01/04

Vegetable material preliminary acid hydrolysis prod. is clarified and pretreated with acids and alkali prior to biochemical processing, e.g. in animal feed biomass mfr etc.

The hydrolysate contg. colloidal material is pretreated before inversion process with sulphuric acid to prevent caramelisation and to remove colloidal particles by addn of 10-20% sodium hydroxide soln to pH 5.0-6.0 and holding it for 1-16 hrs at 20°C. The ppte is sepd and after inversion process the prod is neutralised with aq. ammonia.

Sapotnitskii, S. A. , Porubov, A. T. , Kholkin, Yu. I. ,
Bul. 14/15.4.80. 25.7.77. as510519(4pp938).

PADA/ ★ D13 85951 C/48 ★SU-728-084

Assessing commercial value of coffee - by determining by gas-chromatography ratio of acetaldehyde to methanol volatilised by heating coffee

PADARYAN E M 12.05.78-SU-616159

S03 (15.04.80) G01n-33/02

Commerical value of coffee is assessed by determining the number of defective grains in a coffee sample.

The accuracy of this method is improved by heating the sample in a closed container of 80-90°C for 30-40 mins and then collecting the volatile substances emitted by the coffee and gas-chromatographically determining the acetaldehyde and methanol contents. The vol. ratio of these cpds should be 1:1 to 1:3. Any higher methanol content indicates the presence of defective grains.

Padaryan, E. M. , Tserevitinov, O. B. , Bul. 14/15.4.80. 12.5.78. as616159(3pp70).

VEHN- D13 07299 V/05 =SU-728-730

Gluten from flour - by centrifuging a water dispersion coagulating and recycling the water

OY VEHNA AB 08.09.72-SF-002477

*(20.04.80) *BE-804-595 + A23l-01/10 G01n-33/10*

Gluten is sepd from wheat flour by(1)dispersing the flour in water at 30-50°C(2) centrifuging to a light fraction and heavy fraction(3) reacting the light fraction at 30-50°C to allow the gluten to form filament agglomerates(10-90 min)(4)forming large agglomerates by addn of water with vigorous mixing. Process uses small amts of water and gives ⩾80% dry wt of protein sepn from flour.

Kerkkonen, H. K. , Laine, K. M. D. , Alanen, M. A. , et al
Bul. 14/15.4.80. 7.9.73. as960131(1pp).

CROP= ★ D13 85961 C/48 ★SU-728-808

Nutrient for growing predatory beetle cryptolemus larvae - contg. casein, sugar, maize and coconut oils, agar, choline chloride, dried milk, cholesterol, aminoacid(s) and salts

CROP PROTECT RES 22.11.78-SU-718827

C03 P14 (28.04.80) A01k-67

Nutrient medium for cultivation of predatory beetles Cryptolemus used for controlling harmful insects in agriculture contains(in wt.%) casein 19-21, saccharose 12.5-13.5, maize oil 0.9-1.2, cholesterol 0.18-0.22, Vesson's salt 1.4-1.6, agar-agar 1.4-1.6, dried scales 2.2-2.6, antolysate of beer yeasts 39-42, thiamine 0.0028-0.003 riboflavin 0.0028-0.0031, pyridoxine 0.0028-0.0031 cobalamin 0.00018-0.00022, tocophenol 0.058-0.062, inositol 0.018-0.022, calcium pantotenate 0.034-0.036, p-aminobenzoic acid 0.019-0.22, ascorbic acid 0.148-0.152, nicotinic acid 0.034-0.036, choline chloride 0.019-0.11, biotin 0.00059-0.00062, folic acid 0.017-0.019, cystine 0.145-0.155, glycine 0.145-0.155, glutamic acid 0.045-0.055, lysine 0.014-0.016, histidine 0.09-0.11, and in addn arginine 0.014-0.016, methionine 0.014-0.016, coconut oil 2.4-2.6 and dried milk 3.8-4.2; the balance is distilled water.

This compsn. is relatively cheap. It can be used for large scale cultivation of Cryptolemus which attacks mildew larvae and pulvinaria.

Sogoyan, L. N. , Ovchinnikova, G. S. , Bul. 15/25.4.80. 22.11.78. as718827(4pp70).

TEAI= ★ D13 85972 C/48 ★SU-728-822

Tea-rolling and milling equipment - has table with central depression and superimposed cylindrical container using specified height to dia. ratio

TEA IND RES INST 27.06.77-SU-500989

(28.04.80) A23f-03/04

The unit has circular table with a depression in the centre shaped as a polyhedron with a cylindrical container placed above the table leaving a gap between. The container is connected by rings to crankshafts, the eccentricity of which does not exceed one-quarter of the difference between the dia of the table and of the cylindrical container.

The yield of high-quality finely-rolled tea is increased as a result of increasing the crushing force and the tension of elastic shrinkage of the tea, by having a ratio of table diameter, container dia. , container height and eccentricity of crankshafts equal to:1:0.75:1:0.062.

The table dia and container height is greater by a factor of four compared to the difference between table diameter and container diameter. The diameter of the latter is three times greater than the stated difference.

Goladze, I. D. , Beridze, T. K. , Bul. 15/25.4.80. 27.6.77. as500989(4pp29).

DEMY/ ★ D13 85974 C/48 ★SU-728-824

Adding tripoli to food for ruminants - to stimulate weight increase during winter months fattening

DEMYANOVICH E P 03.01.77-SU-440514

(26.04.80) A23k-01/17

Tripoli in amts of 0.1-1.0 wt.%(w.r.t. the dry weight) is added to the grain food for young bulls grown in cold winter conditions for 70 days.

The average weight increase per day is 1009g(control 944g). The characteristics of the blood remain unchanged.

Demyanovich, E. P. , Khitrinov G. M. , Konkolovich, L. G. ,
Bul. 15/25.4.80. 3.1.77. as440514(2pp70).

JLA/ ★ D13 85978 C/48 ★SU-728-828
nion roots and stalks removing equipment - has driven rotor rrying knives, one flat, other profiled, and parallel runners with rved ends
KULAKOV A F 25.05.77-SU-490964
(26.04.80) A23n-15/08
achine for cutting off the roots and stems of onions, consts of rotor mounted horizontally on a stand with carrers, pressing device, cutting unit, ejector and conveyor remove the onions from the waste material. Productivy is increased together with onion quality, by making the utting unit with a plate-like knife with a second knife of istinctive shape. The latter has a wt. fixed at the top. The ressing device has two parallel runners with curved ends itted with a vertical rib along their length, the cutting nife being pressed against this rib. The carriers are plaes, curved with grooves, one under the other, grooves ppermost, the plates having a wedge shape. Vertical walls re arranged along the edges with deflectors, the ends f which are also curved.
Kulakov, A. F., Laletin, V. V., Medvedev, A. S., Bul. 15/ 5.4.80. 25.5.77. as490964(4pp29).

UMC/ ★ D13 86036 C/48 ★SU-728-931
Centrifugal atomiser for concentrated suspensions of fodder yeast - ontains thermal insulation protecting atomising disc against heat of lue gas in spray drier chamber
TUMCHENOK V I 01.02.78-SU-595807
C03 F09 J01 P42 (05.05.80) B05b-03/12
mproved efficiency of the centrifugal separator for atomsing concentrated suspensions and pastes of fodder yeast nto the spray drier, as used in hydrolysis, alcohol, pulpnd-paper etc industries and increased service life of the tomiser's disc are ensured by reducing the attach on it f high temp of flue gas in the spray drier chamber. The otating atomising disc, which sprays the material fed nder press. through a tube into a space between the staionary additional disc and rotating disc, is thermally rotected. On its hub, fixed to the driving shaft by a nut, is mounted threaded(spring)cap which pressed to the atomsing disc two additonal discs of the same size. The bottom disc is made from stainless steel with polished lower surface, the intermediate disc(or discs)is made from hermally insulating material and prevents transfer of eat to the atomising disc.
Tumchenok, V. I., Trintsukov, B. K., Bul. 15/25.4.80. .2.78. as595807(4pp135).

GENO D13 52544 Y/30 #US 4232-598
Aromatic coffee constituents - produced from coffee oil distillation by condensation on removable sleeve in refrigerator chamber
GENERAL FOODS LTD 07.01.76-CA-243087 (06.01.77-US-757167)
*+Q78 (11.11.80) *DT2655-187 +A23f-05/50 B01d-03/10 B01d-07/02*
A condenser comprises a heat-conductive sleeve removably and snugly surrounding a heat-conductive container. The container houses a coolant. A condensing chamber surrounds the sleeve. This has ports for the passage of a gas stream within the space between the sleeve and the condensing chamber. The condensing chamber includes a removable cover which seals an opening through which the sleeve may be removed.
The appts. is used for the removal of aroma constituents from a coffee oil. The sleeve with condensed constituents is placed in a folding chamber where the condensed product is transferred to an edible substance e.g. coffee oil, to a 2 to 10-fold level. 1.5.78 as 901383 Div. ex 4101681 (7pp295)

VEPE- D13 07743 A/04 =US 4233-210
Protein recovery from green plants - by pressing, coagulating the protein in the juices by heating and treating with a glycol ether
VEPEX FOVALLALK 30.06.76-HU-LI0296
*C03 (11.11.80) *NL7707-293 +A23j-01/14*
Plant protein concentrate is prepd. by pressing a green plant material to yield a press cake and pressed juices. A protein fraction is pptd. by heating the juices at ca. 80 °C. This contains 1.5-2 times more water than its dry wt. and is extracted twice with ⩾5 times more (di)ethylene glycol other than its dry wt.
The extracted protein fraction is washed with water, then dried, to obtain a protein concentrate. The aq. (di) ethylene glycol phase is distilled and a pigment concentrate contg. lipids, chlorophyll, xanthophyll and carotenoids is obtd. by mixing the distn. residue with the press cake.
The prod. is used as a fodder additive and human foodstuff. 28.12.78 as 974022 (+12.4.77-US-786822)(9pp945)

CORN/ ★ D13 86231 C/48 ★US 4233-288
Chewing gum emulsified liquid compsn. - for maintaining and adding to liquid content in the mouth, e.g. to prevent demineralisation of teeth
CORNELL J A 12.03.79-US-019639
A96 B04 (D21) (11.11.80) A61k-09/68
A chewing gum emulsified liq. compsn. comprises (1) 40-62 parts water contg. dissolved mineral salts including Na, K, Ca and Mg chlorides and K phosphates at a concn. of 1-3% of the water constituting the dispersed phase (2) 25-35 parts hydrophobic chewing gum base selected from gum chicle and SBR synthetic rubber gum as the dispersed phase, (3) 2-2000 ppm fluoride ions based on NaF, SnF_2 or sodium fluorophosphate, (4) 3-6 parts carbohydrate sweetener dissolved in the mineral salt water soln., (5) 1-3% glycerine to augment the liq. phase, (6) 0.1-1.0% emulsifier, and (7) 4-5% finely divided filler selected from cellulose fibrous filler, CMC and calcium phosphate filler.
The compsn. is for maintaining and adding to the liquid content in the mouth to ameliorate xerostomata and other conditions where the flow of saliva is inadequate to provide proper oral hygiene. The compsns. may also be used to disperse a drug to the digestive system e.g. Salk type polio vaccine.
This refers to an emulsified water in gum compsn. contg 3-5 parts filler, 25-35 parts gum base, a minimum amt. of emulsifier, and 40-62 parts water contg. up to 7% dissolved solids including 1-3% inorganic mineral salts and 2-20 ppm fluoride ions. 12.3.79 as 019639 (5pp476)

TOPC ★ D13 86240 C/48 ★US 4233-319
Prepn. of low density chewing gum - by gasifying molten chewing gum compsn., then cooling in vacuo
TOPPS CHEWING GUM INC 09.04.79-US-028335
(11.11.80) A23g-03/30
Low density chewing gum prod. is prepd. as follows: (a) a molten chewing gum compsn. is gassed homogeneously; (b) the gasified, molten mass is introduced into a mould and expanded using a vacuum; and (c) the mass is kept in the expanded condition in vacuo until it becomes self-retaining at ambient temps./pressures. Step (a). Gasification is pref. effected by whipping esp. with solid CO_2 so that gum density is reduced by ⩽10%. The conventional gum pref. also contains 0.5-5% gelatin and ⩽2% by wt. glycerol. Step (b). Vacuum is suitably 10-30 inches of Hg, and the prod. is quick chilled with e.g. solid CO_2. Step (c). Finished prod. has H_2O content 0.5-1.4% H_2O. Setting time is ca. 24 hr.
Prepd. compsn. has a spongy texture and a high bulk: wt. ratio. The finished prod. has a texture which on initial chewing can vary from a resilient, marshmallow consistency to a crumbly, porous consistency; further chewing converts the material to a conventional chewing gum. 9.4.79 as 028335 (4pp478)

WYSS D13 16295 B/09 =US 4233-322
Prepn. of rapidly dissolving vegetable prods. e.g. peas - by grinding, treating aq. suspension with amylase and drying
ESCHER WYSS LTD 25.05.77-CH-006433
*(11.11.80) *FR2391-656 A23l-01/20*
Powdered instant soup or puree prod. for human consumption is mfd. from pulse vegetables by finely milling whole pulse seeds, mixing with water and alpha-amylase to form a suspension, continuously conveying the suspension through a short intensive heating phase to produce boiling, a longer reaction phase of 10-45 mins. such that starch decomposition continues without further heating, the drying the suspension and deactivating the enzyme.

The milling step occurs under dry conditions such that the exosperm parts of the seeds are disintegrated and are indiscernible and inseparable from the flour parts. The boiling step takes 10 secs and rapid hydrolysis is achieved without the natural taste of the pulse material being destroy-ed or the enzyme deactivated.

The alpha-amylase is active from its introduction to the drying phase and serves to convert a portion of the starch in the pulse material to maltose and eliminate the bitter, raw taste of the pulse. 16.5.78 as 906610 (2pp931)

ITVI- ★ D13 86243 C/48 ★US 4233-324

Isolated soya protein particles coated with silica - to enhance flowability and dispersibility, and with ammoniated glycyarrhiza to mask the flavour

INT VITAMIN CORP 30.05.78-US-910308

(11.11.80) A23j-03

Compsn. consists of isolated soya protein particles coated with 0.5-3 wt.% SiO_2 and 0.1-3 wt.% ammoniated glycyrr-hiza (I). (I) is enough to conceal the taste of soya protein but insufficient to impart a liquorice flavour. Esp. (I) is about 0.3 wt.%.

The particles, which are useful in foods, are free flow-ing, easily dispersed in liq. and devoid of the objectionable soya taste. 30.5.78 as 910308 (3pp1251)

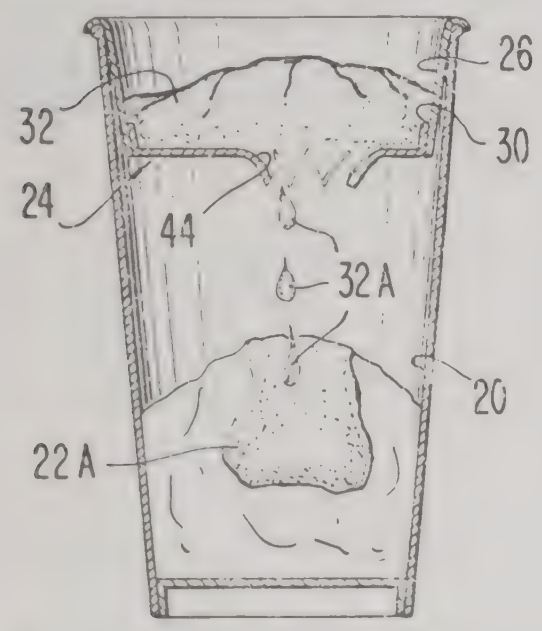
INFL ★ D13 86244 C/48 ★US 4233-325

Ice cream carton with compartment contg. frozen syrup - which is microwave heated to melt syrup which flows onto still frozen ice cream

INT FLAVORS & FRAGR INC 13.09.79-US-075028

Q31 Q32 Q34 (11.11.80) B65b-25/22 B65b-29/08 B65d-25/08 B65d-85/78

A cup-shaped food package contains frozen ice-cream which occupies approximately 50% of the vol. A container is secured in the mouth of the package by a lip which over-lies the package mouth rim. Syrup is held in this container and retained by a removable lid. The base of the container is microwave-resistant.



When the package is placed in a microwave oven beneath a micro-wave source, the syrup is melted while the ice-cream is shielded by the base of the contain-er and thus remains frozen. The package is removed and the con-tainer base is punctured to allow the hot syrup to flow onto the frozen ice-cream.

13.9.79 as 075028 (14pp295)

ANDO/ D13 23808 X/13 =US 4233-327

Instant rice by pressing wet rice, adjusting water content - and puffing or drying, giving storage-stable, easily reconstituted rice

ANDO M 30.09.74-JA-112989 (05.09.74-JA-102637)

*(11.11.80) *NL7510-157 A23l-01/18*

Instant-cooking rice is prepd. by soaking rice in water or a seasoning-liq. to a water content of 20-35 wt.%, mixing with 0.1-1.0 wt.% of surfactant, edible oil or talc, then completely gelatinising with steam at 100-140°C.

The moisture content of the now gelatinised rice is red-uced to 25-35 wt.% by exposing it to air at 40-120°C, then pressed between rolls spaced 0.1-1.0 mm apart without producing cracks or fissures.

The pressed rice produced is dried to 8-25 wt.% by exposing it to air at 20-100°C, aged in a closed chamber at 15-35°C for >30 mins. to equalise the moisture dis-tribution within the grains, then puffed with hot air at 160-450°C. 26.6.78 as 918920 (+2.9.75; 2.2.77 - US - 609728; 765000)(3pp931)

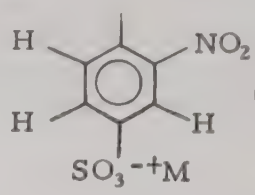
DYNL ★ D13 86245 C/48 ★US 4233-32

Yellow coloured edible materials - contg. a polymer havin pendant 2-nitro-4-sulpho phenylamino gps.

DYNAPOL 04.10.78-US-948465 (08.12.76-US-748575)

A14 E24 (A97) (11.11.80) A23l-01/27

Edible material is in intimate admixt. with a colour-imparting concn. of a water-soluble polymeric yellow colourant comprising a non-chromophoric organic back-bone of mol.wt. 1,000-200,000 having covalently attached to it through amine gps. 10-2,000 chromophore units of structure (I).



(I)

In (I) M^+ is a pharmacologically acceptable cation.

Non-absorbable colourant provides a good colour match for existing monomeric azo food and beverage colourants such as tart-razine. 4.10.78 as 948465 (+11.4.77 - US - 786310)(14pp558)

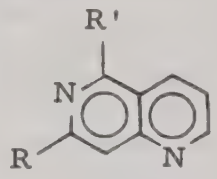
FIRM D13 72125 B/40 =US 4233-332

1,6-Naphthyridine and alkyl derivs. - used as flavours

FIRMENICH SA 16.03.78-CH-002863

*B02 E13 (11.11.80) *EP---4-352 A23l-01/23*

Organoleptic properties of foodstuffs and beverages are



(I)

enhanced, improved or modified by add-ing a small amt. of cpd. of formula (I) (where R and R' are H or lower alkyl) to impart a gustative note of animal or burnt character to the foodstuff.

(I) can be added at any conventional stage during processing, e.g. before or immediately after cooking. Used in esp. for meaty or meat-imitating edible materials. 1.3.79 as 016405 (3pp977)

BOEH D13 35252 B/19 =US 4233-333

Furo and thieno (3,2-d)-isothiazole-3-one-1,1 di:oxide(s) - artificial sweetening agents with high activity and low toxicity and side effects

BOEHRINGER INGELHEIM (THOM) 09.09.78-DT-839266 (05.11.77-DT-749640)

*B02 E13 (11.11.80) *BE-871-772 C07d-275 +A23g-01/23*

4,5-Dimethyl-thieno[3,2-d] isothiazole-3(2H)-one-1,1-dioxide and non-toxic salts formed with (in)organic base are novel.

They can be prepd. by treating 2-sulphamoyl-3-carboxy-lic acid deriv. of furan or thiphene at 0-100 (50-70)°C with (poly)phosphoric and/or sulphuric acid to cause cyclis-ation, then isolating by addn. of ice and purifying.

They are sweetening agents which are at least equiv. in sweetening power to previously used sugar substitutes and have no unpleasant after-taste or toxic side-effects. 20.10.78 as 952958 (10pp977)

SOLO/ ★ D13 86248 C/48 ★US 4233-334

Fruit flavoured dry powdered mixes - contg. beaten cellulose pulp to give mouth feel and appearance of fresh orange juice

SOLOWAY N P 19.03.79-US-021812 (20.05.77-US-798923)

(11.11.80) A23l-02

Fruit flavoured, dry powdered mix which is to be reconstit-uted with H_2O is improved by incorporating with it <0.7 wt.% of dry beaten cellulose pulp (I). (I) has Canadian Standard freeness <500, and is derived by heating cellu-lose in H_2O to the above degree of freeness, removing the excess H_2O, then drying the resulting beaten pulp in contact with a particulate edible solid (II).

Mix pref. contains 0.7-15% esp. 1.5-7%, partic. 3-4% (by dry wt.) of (I). (I) is pref. beaten to a freeness 25-500.

Mix is readily reconstituted with cold H_2O to give a drink which closely resembles (taste, appearance, and texture) natural freshly squeezed orange juice. 19.3.79 as 021812 (4pp478)

BOEF D13 70494 X/38 =US 4233-439
Glucopyranosido-1,6-mannitol used as sugar substitute - prepd by hydrogenation of neutral isomaltulose soln
SUDDEUTSCHE ZUCKER 06.05.75-DT-520173
*B03 E13 (11.11.80) *BE-841-178 C07h-15 +C07h-17*

Prodn. of glucopyranosido-1,6-mannitol comprises hydro-genating neutral aq. solns. of isomaltulose having isomaltulose content > 50 wt.% in the presence of hydrogenation catalyst under H_2 pressure 30-100 kg/cm^2 at 100-130°C, then cooling to cause crystallisation of glucopyranosido-1,6-mannitol which is sepd. from resulting suspension.

The prod. is a sugar substitute and sweetener for food and beverages. 16.3.79 as 021252 Div.ex 4117173 (+3.5.76; 20.3.78-US-628667; 888324)(5pp977)

MEJE- ★ D13 86322 C/48 ★WP 8002-361
Coating cheese with protective meltable layer - in two stages with cheese turned between stages
MEJERISELSK DANMARK 04.05.79-DK-001840
(13.11.80) A23c-19/16
D/S: N(CH, DT, NL, SW) + E(CH, DT, FR, NL, SW)

Cheese is coated with a protective layer of a meltable material, e.g. paraffin. Each cheese is dipped in a bath of the molten material and the material allowed to solidify on removal from the bath. The cheese is held for the dipping action by suction cups which are lowered to partially immerse the cheese and are raised to remove the cheese. After solidification of the protective layer the cheese is turned and the process repeated so that the entire surface of the cheese becomes coated.

The plant may be automatically controlled to give a rapid coating of the cheese providing a uniform layer which does not have irregularities or holes.
1.5.80 as DK0026 (14pp295)
(E) ISR: No relevant documents cited.

ALBE- ★ D13 86325 C/48 ★WP 8002-364
Cold water-soluble fumaric acid compsns. - consisting of fumaric acid particles coated with low dextrose equivalence malto-dextrin
ALBERTA GAS CHEM 26.04.79-US-033545
E17 (13.11.80) A23l-01/22 A23l-02
D/S: N(CH, DK, DT, GB, JA, LU, NL, OE, SW) + E(FR).

A fumaric acid (I) product (particle size 10-40 μ) consists of (I) coated with 2.5-10 wt.% of a malto-dextrin wetting agent (II) which is of low dextrose equivalence and contains < 75 wt.% of polysaccharides above trisaccharides.

The (I) prod. has an enhanced rate of solubility in cold water, and is esp. useful as a food acidulant. In addn., the prod. is granular with little tendency to cake or agglomerate, has little off flavour, has good shelf life, and shows good material handling characteristics.
25.2.80 as US0236 (15pp478).
(E) ISR: US3016299; US3359119; US3821436; US3681086; US3853706; US3962468; US4022924; US4059706; CA-635273; GB-765885.

BIOT- ★ D13 86357 C/48 ★WP 8002-458
Prophylactic determination of food putrefaction - by determining spectral data of sample and comparing with corresponding statistical data
BIOTEKNISK INST (BENT) 01.05.79-DK-001788
J04 S03 (D16) (13.11.80) G01n-21/64
D/S: N(DT, SU, US) + E(DT, FR, GB, NL, SW)

Rot in potatoes is determined by a direct, prophylactic method. Spectral data for a sample of the potatoes are determined and compared with corresponding data which are statistically correlated to the probability of rot development.

Pref. the spectral data are fluorescence data induced by ultra violet light.

The method is used for the detection of infections in potatoes caused by the fungi Phoma and Fusarium. It may also be used to detect other rot e.g. the presence of toxins or aflatoxins caused by Aspergillus infections in grain varieties.
5.9.79 as DK0025 (21pp295)
(E) ISR: SW-409623; FR2368710; US4084905; US4030827; GB1244374; DS2104393; EP--03015; US3449571.

See Also

D12 GB 2047067	D15 US 4233406	D16 J8 0042619
D16 J8 0042634	D23 DS 2043341	D23 US 4233226

D14: FOODSTUFF MACHINERY

KUNZ/ ★ D14 84520 C/48 ★DS 2947-345
Rotatable pressure vessel - with inward closing cover actuated by external lever
KUNZ P 23.11.79-DT-947345
Q34 Q65 (20.11.80) A23n-07 B65d-88/40 F16j-13/20

A rotatable pressure vessel, for example for uses as steam peeler for root crops, has a charging opening with a lid which closes from the inside but is actuated from the outside. The lid is supported on a linkage in such a way that its own weight tends to keep it open. A linkage on the stationary parts can be used to close it, to be kept closed subsequently by applying an internal pressure through the hollow shaft.

This creates a simple closure mechanism which requires no supply of pressurised fluid for any actuator to the revolving pressure vessel. 23.11.79 as 947345. (7pp)

AMMA/ ★ D14 84602 C/48 ★DT 2919-015
Sterile container filling station - applying two blasts of steam air mixture and two of hot dry air
AMMANN S 11.05.79-DT-919015
Q31 (20.11.80) B65b-55/10

A system for the sterile filling of food such as yoghurt in containers in based on a steam/air mixture which is heated and injected in the containers. After collection below the sterile chamber the containers are dried by injecting hot sterile air. The hot air is also collected and distributed to the sterile chamber.

The containers are charged from a magazine on an endless conveyor where they are held in gaps between the plates. The sterilization station and are prefilling, main filling, afterfilling and closing station are all arranged within the sterile chamber.

A steam/air mixture is injected in the containers through a distributor; it consists of saturated steam of 138°C and 3.5 bar, expanded before mixing with air, and heated to 275°C. It is blown in at least two bursts into the containers. From the hot air distributor, hot air of 250°C is injected at least twice in short bursts to dry the containers.

This creates a simple and low-cost system which ensures satisfactory sterilization. All areas of the sterile chamber and of the conveyor tunnel are held sterile, without any need for hydrogen peroxide. 11.5.79 as 919015 (30pp39)

BOEH ★ D14 84617 C/48 ★DT 2919-259
Clarification of fruit juice - by addn. of pectic acid and calcium ion source
BOEHRINGER C H SOHN 12.05.79-DT-919259
(20.11.80) A23l-02/30

Clearing agent comprises a Ca salt such as $CaCO_3$ calcium hydrogen phosphate, etc. Generally 20-400 g pectic acid is used per hl juice, together with an ≈ equiv. amt. of Ca ion donor. The pectic acid may be added to the juice before or together with the Ca ion source. The juice may be heated e.g. to 65-75°C during the clearing treatment.

The treatment is pref. applied to juices such as apple juice after treatment with pectic enzyme. The pectic acid/Ca ion combination gives good clarification and removal of agents causing cloudiness, such as pectins, polyphenols and proteins. 12.5.79 as 919259(9pp513)

APRO- ★ D14 84888 C/48 ★FR 2448-866
Packaging forage for storage in plastic bags - by compression of chopped hay etc. into firm moist cake ready for consumption (BR 14.10.80)

APROALFA APROVECHAM 14.02.79-ES-477711

P12 (17.10.80) A01d-91/04 A01f-15/04 A23k-03 A23n-17

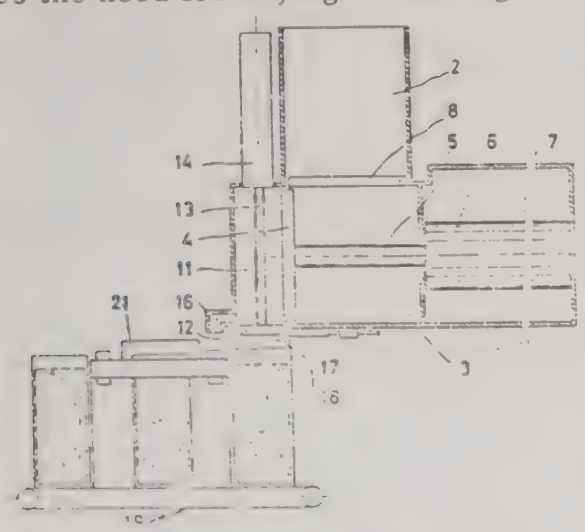
A process and a machine for compressing vegetable matter, e.g. pre-chopped hay etc., into a moist cake which is filled into a package for storing as forage ready for direct consumption.

The compression substantially reduces the air included in the vegetable matter and extracted some of its liq. producing a firm, pressed cake. The cake is filled into and sealed inside a moisture-proof container, partic. a plastic bag. The prod. ferments inside the container in conditions of controlled temp. and atmos.

The machine pref. comprises a horizontal, cylindrical compression chamber with power-operated piston. The chamber is loaded with raw material via a vertical feed tube. After compression, cake is discharged, either by gravity or by a vertical cam, into thermoplastic bags which are then heat-seamed.

Used in prodn. of packaging forage for storage. Obviates the need for drying or ensilage. The cake is stored in moist condition, ready for immediate consumption when unpacked.

The packages are easy to handle and to stack in store.



29.1.80 as 001829 (12pp448).

REMI- D14 04087 A/03 =GB 1580-071
Homogeniser for mixing a finely divided mass into another - has ultrasonically vibrating blade energised independently of the materials

REMIA BV 07.07.76-NL-007527

*J02 (26.11.80) *BE-856-517 B01f-11/02*

Masses contg. tow or more substances are homogenised by finely dispersing one in the other by an ultrasonically vibrating blade which is moved through the mass so that the vibrational energy is largely obtained by its speed of movement, the blade also being rotated.

Blade speed relative to the mass is pref. 5-10m/s. There may be two blades rotating in opposite directions or one blade and an impeller on a rotatable shaft. The method minimises energy loss and homogenisation is not dependent on mass travel speed. The method is e.g. for whipping synthetic cream. 6.7.77 as 028403 (9pp1358)

MEDK D14 20322 B/11 #GB 1580-140
Cold chamber esp. meat store, sterilised by negative ions - from corona discharge electrodes in wall mounted holders (SW 25.5.77)

MEDICOR MUVEK 06.06.77-FR-017221 (02.06.77-GB-023464)

*+P34 Q75 (D22) (26.11.80) *FR2393-539 F25d-23 H01t-20/02*

Sterilising apparatus in a cold store chamber includes a corona discharge ionising electrode system with points fastened to holders adjacent to deflector electrodes and within the chamber. The holders have a safety impedance between the points and a metal conductor for connection to a voltage supply.

The apparatus is pref. mounted on a base plate and sheathed in a cover with the points in front of the outlet of a blower, the deflectors behind the metal frame holders and the voltage supply unit in front of the blower. 2.6.77 as 023464 (6pp1358)

VAIS/ ★ D14 C/48 ★SF 7900-764
Cabbage unloading plant

VAISSI J 06.03.79-SF-000764

(31.10.80) A23n

STAV= ★ D14 85949 C/48 ★SU-728-082
Foodstuff lipid sepn. by thin-layer chromatography - on silica gel using phosphorous-molybdic acid developer pretreatment, before lipid extract application

STAVROPOL POLY 18.04.78-SU-610074

J04 S03 (15.04.80) G01n-31/08

Sepn of foodstuff lipids by thin-layer chromatography (TLC) involves applying $CHCl_3$ extract of lipids to silica gel, treating with a solvent system, developing with phosphoro-molybdic acid(I) and densitrometry of the strains Increased accuracy is ensured by treating silica gel with (I) before applying the lipid extract.

Polovyanova, A. V., Kunizhev, S. M., Klyushkina, Yu. F., Bul. 14/15.4.80. 18.4.79. as610074(2pp114).

GPOL= ★ D14 85971 C/48 ★SU-728-821
Heat treatment equipment for thermally sensitive materials - has two heating zones with different temperature through which material is blown by turbulent air flow

GEOR POLY (TEAI=) 12.05.78-SU-617028

Q76 (28.04.80) A23f-03 F26b-17

Heat-treatment equipment for thermally-sensitive materials e.g. during the de-freezing of tea, has body with conical bottom, linked to a gas-distribution chamber by a lengthwise opening which allows gas to enter, plus a profiled deflector to form a closed vortical flow. The thawing process is speeded up while maintaining the product quality, by including an attachment to break up the vortical flow, placed in the centre of the bottom at right angles to the opening, with two heat-treatment zones, and made as strips of right-angled triangle cross-section- the hypotenuse of which is formed at the side of the zone with the highest temp. The deflector is made in two parts with a gap between them.

Zhvaniya, G. G., Bibileishvili, V. I., Kakalashvili, A. N., et al Bul. 15/25.4.80. 12.5./78. as617028(3pp29).

MOAG= ★ D14 85976 C/48 ★SU-728-826
Fruit grading method - by conveying fruit past groups of irradiation sources and measuring scanning angle of reflected radiation

MOSC AGRIC MFG ENG 04.01.76-SU-309953

T05 X25 P43 (26.04.80) A23n-15 B07c-05 34

Method and equipment for grading fruit according to quality, by irradiating it, scanning the surfaces with prodn. of an electric signal which is compared with a standard, and then transmitted to an executive mechanism. Safety and grading accuracy are increased by directing the flow of irradiation in such a way that, at each point on a surface being scanned, the irradiation is inversely proportional to the cosine of the angle to scanning. The equipment has a cylindrical chamber, irradiation sources and photo converters to make the signal. Radiation flux regulators are provided and the sources are disposed in the middle part of the chamber, concentric to the side walls, so that they form separate groups in each quarter of the chamber. Each group is symmetrically arranged and connected to the corresp. radiation flow regulator.

Borodin, I. F., Gordeev, A. S., Chetvertakov, A. V., Bul. 15/25.4.80. 4.1.76. as309953(4pp29).

VEGE= ★ D14 85977 C/48 ★SU-728-827
Agricultural prod., e.g. fruit, sorter - has grading drum and electromagnetic unit with system of half-clutches and defective fruit ejectors

VEGETABLES RES INST 06.09.77-SU-526615

T05 X25 P43 (26.04.80) A23n-15 B07c-05 06

Fruit grading equipment, has frame, feeding conveyor

th elements for piecemeal supply, stationary take-away annels, grading drum with grading posns. on its surface d ejectors, command unit for visual rejection, electro-agnetic device to transmit the signals from the unit to e ejectors, and means to return the ejectors to the ori-nal posn.

Productivity is increased and the fruit are graded into large number of fractions, by placing a small roller nder each ejector with mechanical memory elements.

Around the circumference of the drum are catches to ut the ejectors in the working position and the memory lements into the initial posn. The latter consist of two alf-clutches on the end of each roller with a gap between eir teeth. One half-clutch is connected via a rod with ne ejector and the other end has several projections hich act in conjunction with the moving element of the lectromagnetic device and the catches.

traz, L. V., Kolchinskii, Yu. L., Naidis, A. I., et al Bul. 15/25.4.80.6.9.77.as526615(5pp29).

NURA= ★ D14 85979 C/48 ★SU-728-829

Rough animal feedstuff production equipment - has double cylinder, inner one perforated, with packing piston, and steam admission system for heating

N URALS REG AGRIC 21.12.78-SU-702472

(26.04.80) A23n-17

Equipment for making rough animal feedstuff has loading hopper, processing chamber made as two cylinders, one inside the other, with formation of a space between carry the heat-carrier, with a piston inside the inner cylinder. End prod quality is increased by perforating the inner cylinder and fitting the outer cylinder with a steam-conducting pipe. The loading hopper also has a steam jacket linked to the space for the heat-carrier.

Sviderskii, V. I., Dmitriev, V. V., Pfaff, V. G., et al Bul. 15/25.4.80.21.12.78.as702472(2pp29).

MOSN ★ D14 85981 C/48 ★SU-728-832

Food-cooking boiler - with steam jacket formed from double metal layer with channels through which steam is passed and condensate removed

MOSCOW NAT ECONOMY INST 13.09.77-SU-526688

P28 (26.04.80) A47j-27/17

Food-cooking boiler with indirectly-heated vessels, for communal feeding establishments, the vessels having steam jackets made as a system of parallel channels, with steam supply pipe and condensate-removal pipe. The time taken for heating the boiler is reduced by making the chan nels dead-ended and arranged in the vertical plane. The walls sepg channels from one another, have holes to allow the channels to communicate. The width of the walls between the channels is 0.2-1.5 of the width of a channel.

Gordon, L. I., Beilin, I. I., Demidov, I. N., et al Bul. 15/25.4.80.13.9.77.as526688(3pp29).

PERR/ ★ D14 86076 C/48 ★US 4232-597

Food smoking enclosure with separate smoke unit - secured to aperture in enclosure wall, for rapid smoking of meat, cheese, nuts etc.

PERRINE P M 11.05.78-US-904881

(11.11.80) A23b-04/04

A food smoker includes an enclosure with a door and an aperture for attachment of a smoker unit. The food prods. are supported on racks within the smoker. The smoker unit includes a pan for holding the smoke-producing material. This does not underlie the racks so that fluids discharged from the food prods. do not interfere with the smoke production. A heater produces the desired quantity of smoke without causing an appreciable temperature rise in the smoker.

The smoker unit includes a flange which fits within the aperture and engages a portion of the inner wall of the smoker. A second, oppositely facing flange, engages the outer wall of the smoker along the remaining portions.

The smoker is fuel efficient and rapidly imparts a smoked flavour to the food prods. which may be meat, cheese or nuts. 11.5.78 as 904881 (9pp295)

JAGN D14 31645 B/17 =US 4232-802

Automatic dispenser of tiny doses of liq. - esp. hydrogen peroxide, to sterilise plastic coated milk cartons before filling

JAGENBERG WERKE AG 24.12.77-DT-757897

*S02 Q39 + P34 Q31 Q56 (11.11.80) *BE-873-023 + B67d-05/08*

Appts. for pulsed dispensing of very small amounts of liq. includes an ejector and a measuring vessel of larger volume than each pulse and with high and low sensors defining a refill volume. A pump responsive to the sensors supplies a constant amount of liquid from a reservoir. A feed line to the vessel passes through a pump neck and terminates adjacent the pump foot.

The foot is immersed in reservoir liq. and has an opening with a check valve opened by a compressed air supply controlled by the sensors. A three-way valve is connected between the neck and compressed air supply and is actuated by sensor signals. 21.12.78 as 971778 (7pp1358)

SYMA- D14 54500 B/30 =US 4232-973

Continuous mixer for particulate solids and liquids - comprises inner duct opening into concentric outer duct both having helicoidal element carrying along solid or liq.

SOC SYMAC 20.01.78-FR-001670

*A31 J02 (11.11.80) *BE-873-577 B01f-07/08 B01f-15/02*

Appts. for continuously mixing two flowable products, particularly a powder or granules with liq., includes a duct with an inlet for one product, a helical element and an outlet for mixt., and a second duct concentrically within the first and with a second helical element to deliver the second product into the first product flow and in the same direction of travel.

The elements may be of the same or opposite hand and rotated in the same or opposite directions. Alternatively, the first product is a liq. which is injected tangentially into the outer duct while the first element is stationary and the second rotated. 17.1.79 as 004169 (11pp1358)

DCAF ★ D14 86114 C/48 ★US 4233-016

Extrusion apparatus for forming food rings - with rectangular cross/sectioned walls

DCA FOODS INDS INC 28.09.78-US-946755

(11.11.80) A21c-05

A slurry of a food product is extruded through a nozzle in a radial direction. A forming sleeve is spaced from the nozzle and includes an inner wall which shapes an outer wall of the extruded food product. The inner wall is arranged so that the region between the nozzle and the wall is unobstructed in a direction parallel to the wall both axially above and below the nozzle. The resulting food product is free to be removed from both the nozzle and the wall in this parallel direction.

The appts. is used to form an extruded ring of food product having a rectangular cross-section rather than the usual curved section. This is particularly useful when forming onion rings from an onion mash. 28.9.78 as 946755 (6pp295)

OSAT/ ★ D14 86323 C/48 ★WP 8002-362

Compression moulded feed e.g. straw prodn. - using machine with double plunger system to compress centre then whole mass

OSATO A 28.01.80-JA-008674 (29.04.79-JA-052813)

(13.11.80) A23k-01/20 A23n-17

D/S: N(OE, US) + E(DT, FR, GB, NL, SW)

Compression moulded feed is prepd. using a moulding machine comprising a moulding cylinder (1) with a cross-section of e.g. 40 x 20 cm and with one side wall defining slits (2) via which cutters (3) may enter the cylinder (1). A main plunger (6) has a flat front face of e.g. 39.5 x 19.5 cm and is drivable into the cylinder (1) by a main jack (4). A smaller, secondary plunger (11), which has a flat front face of e.g. 30 x 14 cm, is accommodated in a central portion of the main plunger (6). and can be driven by a secondary jack (9) to project forwards of or be flush with the main plunger front face.

Feed material, e.g. straw, is packed into the cylinder (1). The cutters (3) are inserted then withdrawn. The secondary plunger (11) is projected out of the main plunger (6), then the main plunger (6) is moved into the

cylinder (1) so that the feed centre is compressed while outside layer fibres curl inwards, simultaneously filling cuts formed by the cutters (3). The secondary plunger is then withdrawn flush with the main plunger, and the main plunger is moved further forwards.

Because of inwards curling of outer fibres, the compressed feed retains its form despite drying, impact, etc.

17.4.80 as JA0076 (19pp1412)
(J) ISR: J75013177;

NAEQ- ★ D14 86324 C/48 ★WP 8002-363
Food oven with controlled atmosphere - with temperature and moisture content controlled by air circulation around not through oven
NAT EQUIP CORP 10.05.79-US-037759
(13.11.80) A23I-01
D/S: N(BR, DK, JA, SU) + E(CH, DT, FR, GB, LU, NL, OE, SW)

A food oven comprises an inner box-like wall separated from an outer wall by an air circulating passage extending in a loop around the box. The passage includes both vertical and horizontal sections and has a suction and a pressure end. The inner wall is formed with louvred apertures which confine the circulating air within the passage but which enable heat and moisture to pass from the passage into the chamber within the box. The apparatus includes fan and a heater.

The oven may be used to maintain cooked foods at uniform temp. and in a moisturised environment so that they retain their taste, appearance and size for extended periods of time. Alternatively the oven may be used for slow cooking of meats.

9.5.80 as US0546 (26pp295).
(E) ISR: US3658047; US4039776; US3999475; US4062983;

D15: WATER TREATMENT

GESJ ★ D15 84413 C/48 ★CA 1089-128
Organic waste treatment process by flocculation - with optimisation of process by operating impeller at predetermined power level
GENERAL SIGNAL CORP 07.12.76-US-748338
(04.11.80) C02c-05/02

Process utilisers an ampeller in a tank, which has blades, the ratio of the blade height to impeller dia. being <1. The ratio of impeller dia. to the equiv. tank dia. is <0.6. The impeller is operated at a power level defined by: $HPV=\frac{K\mu}{Te}$

where HPV= power level in horsepowder/1,000gallons; μ= viscosity of medium in centipoise; Te= equivalent diameter of tank in feet; K= constant(0.002 to 0.1).

Process is used in the treatment of water, sewage or industrial water by the formation of suspended floc which is removed by settling or filtration. 25.10.77 as 289426(13pp)

BAUE/ ★ D15 84440 C/48 ★DL-144-254
Purifying waste waters contg. (in)organic colouring materials - by passing over adsorbent waste prods. and/or by introducing filter ash or flue dust
BAUER S 11.06.79-DL-213531
(08.10.80) C02f-01/28

Waste waters contg. up to 20 kg/m³ dissolved and/or colloidally distributed inorganic and/or organic colouring materials are purified by adjusting pH 1-14 to esp. pH 6-8 and (a) passing over adsorbing waste prods., (A), pref. at a surface loading of <10 (3 to 0.6) m^3/m^2 adsorber surface hr. and/or (b) introducing dry electrostatic filter ash or flue dust in quantities of 10-150 kg/m³ waste water, whereby the colouring materials are flocked and electrochemically bonded. (A) consists of wet ash, xylite, wet ash xylite, partly coked ash xylite and thermally or chemically activated xylite.

Pre-purified waste waters can be discoloured economically to form clear water. O_2-consumption in main drainage stream is reduced. Discolouration can reach 100%.

11.6.79 as 213531 (13pp200)

CIBA D15 10120 S/05 =DS 2037-944
Organic impurities removal from water
CIBA GEIGY AG 01.08.69-CH-011754
*A22 (A14 A97) (20.11.80) *BE-754-243 +C02f-01/56*

Water contg. dissolved, emulsified or suspended dye, oil, fat or resin is purified by contact with highly dispersed, crosslinked, insoluble urea-formaldehyde resin with an average molecular wt. of more than 1000 and a specific surface area of more than 5 m^2/g. The resin, loaded with the impurities is removed e.g. by filtration with a filter aid. The prepn. of a suitable resin is described in DE 1907914. Waste water from machine shops, paint factories, garages, etc. may be so treated. 30.7.70 as 037944. (3pp068)

ENVI- D15 42330 S/25 =DS 2053-544
Distillation appts heat transfer surface
ENVIROGENICS SYSTEM (AERG) 15.12.69-US-885116
*J01 (J08) (20.11.80) *DT2053-544 +B01d-01/22*

The walls of the bundles of metal alloy tubes in a falling film vapouriser for the distn. of fluids, have recessed and/or raised zones. These have the cross-section of a sphere, of a droplet or of a rhombus. The zones are arranged in the pattern of a grid the axes of which are inclined at an angle to the horizontal.

The metal alloy has good heat conducting characteristics and the one side of the wall forms the vapourising surface whilst the other forms the condensing surface for hot steam. The wall thickness in the zones of the recesses or bosses is less than that in the remainder of the pipe wall, and the transfer of heat in the vapouriser is much more efficient. 31.10.70 as 053544. (7pp1045)

UNIC D15 61607 T/39 =DS 2207-202
Reverse osmosis module - for de-salting seawater etc
UNION CARBIDE CORP (WESE) 03.03.71-US-120587
*J01 (20.11.80) *NL7201-384 B01d-13*

An enclosing membrane forms the outer peripheral surface of the sand bars in a unit for purifying water by reversed osmosis. The sand bars are arranged in the unit so that between the wall of the container and the sand bars there is a cavity. There are cavities also between the separate sand bars. The ends of the bars are sealed by an impermeable material whilst the periphery of all the bars is enclosed by the fluid flowing in under pressure.

The unit is of simpler and cheaper design, has a much higher degree of efficiency and a number of units can be installed alongside and above each other. 16.2.72 as 207202. (6pp1045)

READ- D15 13102 W/08 =DS 2437-367
Dehydrating matls. contg. solids and water - with sec or tert amines after pre-treatment with alkaline matls.
READING & BATES PRO 03.08.73-US-385489
*(20.11.80) *DT2437-367 B01d-12*

A mixt. of solids and water, e.g. a clear slurry or an alum slurry obtd. in the treatment of waste in drinking water treatment, is dehydrated. An alkaline material, pref. NaOH in an amt. of up to 1.2wt.%, based on the material to be dehydrated, is added to the mixt. and then a sec. or tert. amine of formula $NR_1R_2R_3$ (where R_1 is H or alkyl; R_2 and R_3 are 1-6C alkyl or 2-6C alkenyl and the total number of C atoms is 3-7), is added. The amine has a critical soln. temp. with water, under which it is miscible with water forming a single phase and above which two separate phases are formed. The amine is mixed with the material at a temp. under the critical temp., the solid phase is sepd., the temp. of the liq. phase raised

and the amine phase is sepd. from the water. The addn. of the alkali helps the sepn. of the solid from the amine-water soln. 2.8.74 as 437367. (7pp068)

SCHU/ D15 44177 A/25 =DS 2655-153
Counterflow bar screen for sewage or desalination plants - with rake prongs guided up to discharge point by stationary screen bars
SCHUSSLER K H 06.12.76-DT-655153
*Q42 (20.11.80) *DT2655-153 E02b-05/08 E03f-05/14*

The separate rods of the vertical grid in an automatic raking device for removing the floating matter from water flow channels such as the gutters of sewage farms, water desalination plants, etc., can be fixed individually relatively to their long axis.

The rods are attached above the level of the dumping car and on the bed of the water, and the tines of the rake, raised and lowered on a motorised carriage, project between them on their upward stroke, to be tilted back at the top whilst a scraper removes the matter collected.

The distortion of rigid grids caused by wedging of the loose material between the rods and the tines, and the consequent inefficient clearing of the debris is prevented. 6.12.76 as 655153. (4pp1045)

DULG/ D15 57043 C/33 =DS 2903-772
Processing and disinfecting recycle water - esp. for swimming pools, by ozonising with chlorine di:oxide addn. while controlling ozone quantity
DULGER V 01.02.79-DT-903772
*E36 (20.11.80) *DT2903-772 C02f-01/78*

Water kept in circulation, esp. for swimming baths is prepd. and disinfected by addn. of chlorine dioxide and ozone. The amt. of ozone added is limited to that needed to oxidise the chlorite, formed from the chlorine dioxide during circulation, back to chlorine dioxide at least to a considerable extent and yet the oxidn. of the chloride dioxide is effected to only a small degree. By limiting the amt. of ozone added the amt. of chlorine dioxide required is also less and the two chemicals have a synergistic effect. 1.2.79 as 903772. (3pp068)

DAMB- ★ D15 84522 C/48 ★DT 2911-399
Treating metal-contg. sewage sludge - by adding metal complexing agent, decanting and re-precipitating solubilised metal
DAMBACH-WERKE GMBH 23.03.79-DT-911399
(20.11.80) C02f-11

In a process for removing (heavy) metals from aq. sewage sludge, a complex former (I) is first added to convert the metal into water-soluble and dissolved form. The sludge suspension is then sepd. into low solids and high solids phases. The sludge, impoverished w. r. t. metal, is removed. The low solids phase is treated with a reagent to ppte. the metal component, and the pptd. metal cpd. and the sludge residue are sepd. from the liquor. Pref. (I) is citric acid, tartaric acid, gluconates or alkanolamines, esp. trialkanolamines.

Process gives good removal of (heavy) metals from industrial and other wastes. The liquor from the final stage is suitable for disposal in the drains, whilst the solid prod. is despatched to a toxic materials waste tip or to a metal recovery unit. 23. 3. 79 as 911399(14pp513)

LINM ★ D15 84591 C/48 ★DT 2918-950
Treatment of effluent water - contg. heavy loading of nitrogenous and organic cpds., involves two/stage nitrification and denitrification
LINDE AG 10.05.79-DT-918950
(20.11.80) C02f-03/12

A two-stage process is used for nitrification and denitrification of effluent water which is heavily loaded with organic and nitrogenous materials. The input water to both stages is divided. The overflow from the first stage is passed to the second stage and active sludge is recovered from the output from each stage and is recycled to the respective stage.

At least the second stage comprises a zone with low oxygen conditions followed by a zone with oxygen-rich conditions, with internal feed-back between zones. The feed to the low oxygen zone of the second stage comprises the overflow from the first stage after removal of the active sludge, together with 25-50% of the original effluent water.

Process allows improved (> 90%) removal of N cpds. together with organic cpds. 10. 5. 79 as 918950(17pp513)

GLAH/ ★ D15 84611 C/48 ★DT 2919-221
Revolving biological trickle drum - with spirally wound plastic tubes inside oxygen filled enclosure
GLAHN H 12.05.79-DT-919221
(20.11.80) C02f-03/04

In a biological treatment of sewage and industrial wastes, a totally enclosed housing for a revolving trickling drum is kept at an oxygen pressure to ensure a contact of bacteria in a concentrated oxygen atmosphere with the effluent. A spiral arrangement of plastic tubes on the partly immersed drum ensures constantly changing osmotic pressures of the microorganisms.

Such a system requires a minimum of space and material. It is entirely free from smells and can be installed even inside factories of the food industry. 12. 5. 79 as 919221(8pp39)

MECA- ★ D15 84614 C/48 ★DT 2919-244
Trickling sewage treatment drum plate - composed of four quadrants of plastics foam
MECAFINA SA 12.05.79-DT-919244
A88 (20.11.80) C02f-03/06

A partly immersed trickling drum for biological sewage cleaning systems has each of the parallel discs on the horizontal drive shaft subdivided into four quadrants. Groups of the same quadrants are assembled into sectors which are inserted in the drum structure, spaced from each other by a network of ribs on the quadrants. The material for the discs preferred in an expanded polystyrene with ribs and grooves to carry the biologically active agent.

This drum can be broken down into units which cause no transport problems. Its assembly is also greatly simplified thereby. The great active area and low weight of the discs are other good features. 12. 5. 79 as 919244(29pp39)

CERW/ ★ D15 84624 C/48 ★DT 2919-315
Water purificn. for dialysis purposes - by softening in ion exchanger silver resin and reverse osmosis filter
CERWINSKY P 14.05.79-DT-919315
(20.11.80) C02f-01/44

A water purificn. system, esp. for medicinal purposes e. g. for a dialysis station is based on an osmotic filter. The water is softened by passing through a resin contg. silver particles, followed by purificn. in a reverse osmosis cell. Before the softening any solid impurities and after the softening any organic cpds. are removed by filtering.

This system combines a substantial simplification with a significant improvement of the pure water quality. 14. 5. 79 as 919315(20pp39)

ROED- ★ D15 84649 C/48 ★DT 2919-752
Pulp clarification system - by flotation of contaminants and odorants with biological sludge
ROEDIGER W & C GMBH 16.05.79-DT-919752
(20.11.80) C02f-09

Contaminants and odoriphores in pump and turbid effluents in sewage treatment installations are removed by passing the pulp through a flotation basin for the thickening of biological sludge. The flocks of the biological sludge have strongly adsorbent properties so that the contaminants adhere to them and are raised to the surface. Even particles which are not floated just by the air bubbles are thus taken to the surface where a very greatly thickened floating layer can be removed by raking arms or worm conveyors.

This offers a simple and effective way of removing contaminants and odoriphores. 16. 5. 79 as 919752(6pp39)

BRIT- ★ D15 84660 C/48 ★DT 2919-901
Water purification appliance - with granular cleaning agent in cup inserted in sleeve
CHEM BRITA GERATE 17.05.79-DT-919901
(20.11.80) C02f-01/04

Water purifcn. appliance consists of a funnel-shaped top with an integral sleeve at the bottom. The sleeve has an inner ledge at its open bottom and accepts a cup with strainer discs on top and bottom. The cup is filled with a granular cleaning agent which is not soluble in water. A tubular central extension to the cup which serves as a vent can also be used as a handle to lift out the cup.

The cup is sealed at its top rim against the sleeve and ensures that undesirable infection by germs is minimised. 17. 5. 79 as 919901(14pp39)

STEM ★ D15 84671 C/48 ★DT 2920-054
Pretreatment of water for reverse osmosis - by flocculation with acidic salt and acid and centrifugal sepn of solids
STEINMULLER L & C GMBH 18.05.79-DT-920054
J01 (20.11.80) C02f-01/52

Pretreatment of feed water for a reverse-osmosis unit (e.g. salt water or waste water) is carried out by adding an aq. soln. of an acidic salt (I) and an acid (II) having the same anion to adjust the pH to the required value for reverse osmosis. The ppted. hydroxide is then removed, opt. after adding a flocculating agent, by means of a centrifuge (pref. a disc-type centrifuge).

The ppte. is then redissolved in (II) together with fresh (I), and the soln. is clarified in a 2nd centrifuge (pref. disc-type) and added to the incoming feed water. The treated water is passed from the 1st centrifuge under pressure to the reverse-osmosis unit, opt. after adding a chemical reducing agent.

The treatment removes finely divided insoluble impurities which would otherwise block the reverse-osmosis membrane. The flocculated material is recovered in concd. form, which facilitates disposal (cf. conventional sedimentation sepn.). 18. 5. 79 as 920054(7pp367)

BADI ★ D15 84687 C/48 ★DT 2920-350
Dewatering of clarifier sludge - by treatment with flocculating agent, gravity filtration and filtration in a filter press
BASF AG 19.05.79-DT-920350
(20.11.80) C02f-11/12

Clarifier sludge is dewatered by first treating it with an organic flocculating agent, then removing the greater part of the water by gravity filtration of the flocculated sludge without application of a press. difference. The sludge is finally dewatered by filtration in a chamber filter press in the usual way.

The gravity filtration stage allows removal of the greater part of the water without destroying the physical structure of the flocculated material. The resulting concentrated sludge can then be dewatered in a filter press without addn. of filter aids such as sand, ash or lime which are necessary in prior art single-stage sludge dewatering processes. 19. 5. 79 as 920350(19pp513)

BADI ★ D15 84695 C/48 ★DT 2920-434
Dewatering of sludge - by treating with organic flocculating agent and maturing before filtration
BASF AG 19.05.79-DT-920434
(20.11.80) C02f-11/12

The dewatering characteristics of sludge are improved by treating the sludge with an organic flocculating agent and maturing the mixt. for 0. 5-3 mins, esp. 1-2 mins in a mixer using an energy input of 0. 005-0. 5 watt/litre, esp. 0. 01-0. 2 watt/litre.

The maturing stage gives optimum flock formation and improves the dewatering characteristics of the sludge in subsequent sepn. processes such as gravity or press. filtration, centrifuging etc. The dewatered sludges are useful e. g. for soil improvement, as a combustion fuel, etc. 19. 5. 79 as 920434(26pp513)

ORIE ★ D15 84709 C/48 ★DT 3010-042
Water distillation system - utilises latent heat of condensation to form steam in either thermo-diffusion or convection type appts.
ORIENTAL METAL SEIZ KK 11.08.79-JA-102576
(20.11.80) C02f-01/04

A water distillation system for the desalination of seawater or the purification of waste water by heat input, e. g., from solar radiation, consists of a heat absorption panel, lined at the rear by a porous water absorbent plate. Several cooling panels, each lined at the rear by a porous water-absorbent plate, are arranged in parallel. They dip on top and at the bottom into the raw water and have in the spaces between them collecting channels for the condensate.

This is a simple appts. which has a high thermal efficiency. Its effect can be readily amplified by adding more stages. 15. 3. 80 as 010042 (48pp39)

OKRE- ★ D15 84710 C/48 ★DT 3010-538
Nitrate removal from water by ion exchange - using strongly basic anion exchanger largely in sulphate form (CS 30.11.79)
STROJOPRAV OKRESNI 19.03.79-CS-001805
(20.11.80) C02b-01/23 C02f-01/42

Sepn. of nitrates from water (esp. drinking water) is carried out by contacting with a bed of a strongly basic anion exchanger in which 50-100% of the functional gps. are in sulphate form, 0-50% in chloride form and 0-50% in bicarbonate form.

The treatment replaces harmful nitrate by harmless sulphate without producing excessive increases in chloride and bicarbonate levels. The treated water has a balanced salt compsn. even when the feed water has a high salt content. 19. 3. 80 as 010538(10pp367)

CARB- ★ D15 84740 C/48 ★DT 3016-239
Oxidising water treatment - in oxygen diffuser and in ascending vortex produced in biological reactor
CARBOXYQUE FRANCAIS 22.06.79-FR-016098 (15.05.79-FR-012316)
(20.11.80) C02f-03/20

A biological cleaning system of water to produce drinking water by oxidn. of the contaminants is based on saturating the water in a diffuser with air or oxygen. The stream is admitted to another tank where it rises in fluid vortex to effect a bacterial oxidn, of the contaminants. Clean water is discharged by an overflow and the sludge is extracted from the bottom.

An impeller (8), driven by the motor (9), urges the water (7) which has arrived in the reception tank (1) thr through pipe (2), into a Venturi (5). Oxygen is admitted through an immersed diffuser (12), containing a porous cartridge (15) along spiral tubes (17) to which the pipes (19, 20, 21) admit aluminium sulphate, a flocculant, and activated carbon.

This saves chlorine and prevents the formation of chlorophenolics. The power consumption is reduced to a min. and the formation of bubbles has been eliminated. 26. 4. 80 as 016239(20pp39)

KIRO ★ D15 84750 C/48 ★DT 3016-713
Redox materials - comprise polyvinyl formal or polyurethane open celled foam and reactive fibre filler
LENINGRAD TEXTILE LIGHT 03.05.79-SU-762583
A25 E36 J01 (20.11.80) C01b-05 C01b-21/04 C08j-09 C08l-29/14 C08l-61/16 C08l-75/04

Porous, open celled, filler contg. material comprises a polyvinylformal or polyurethane foam and reactive, redox fibres as filler in an amt. of 10-80 wt. % (w. r. t. the compsn.).

The material pref. contains 50-70 wt. % fibres. The fibres may be PVA, polyacrylonitrile, cellulose hydrate or cellulose acetate fibres with covalently bonded oxidation-reduction agents chosen from polyvalent phenols, anthraquinones, naphthoquinanes, their oligomeric condensation prods. with aldehydes.

The material can be used to treat water for power plants, in the prepn. of oxygen free water with high purity for the electronics industry, increasing the valency of low valency cpds., sepg. Cr from waste solns. purifcn. of

-contg. low amts. of O_2, hydrocarbons contg. low amts. H_2S and liqs. from H_2O_2 and ion exchange of highly luted solns.

The material has a high rate of oxidation-reduction rocesses, high osmotic stability, mechanical strength, astic properties and dimensional stability. 30. 4. 80 as 16713(37pp952)

RDC ★ D15 84773 C/48 ★DT 3017-634
ollow fibre element for ultrafiltration etc. - having hollow fibres et into conical mounting the end of which is cut off to breathe inlets nd outlets for blood (NL 18.11.80)

CORDIS CORP 14.05.79-US-039066

A88 J01 P34 (20.11.80) A61m-01/03 B01d-13

lement for semi-permeable membrane sepn. processes onsists of a bundle of hollow filament fibres made from ellulose acetate or other suitable membrane material. wo ends of the fibre bundle are embedded in thermo-lastic resin moulded by a centrifugal casting operation. nds have a conical profile which allow them to be sealed n by compression cap without the need for O ring seals. fter moulding the ends are cut to trim them and expose he open ends of the fibres. Double conical profile of the nds allows them to seal both onto the shell and onto the nd cap.

Used esp. for blood treatment as artificial kidneys e. g. dialysis, reverse osmosis and ultrafiltration. Avoids the need for O ring seals and allows effective inlet and outlet chambers for the blood to be formed by sealing the cap against the inclined surface of the element sealing block. 8. 5. 80 as 017634(40pp1053)

ERAP ★ D15 84855 C/48 ★FR 2448-508
Oil removal from waste water - by filtration through oleophilic fibrous material with periodic automatic regeneration

ELF FRANCE 08.02.79-FR-003221

A88 J01 (10.10.80) B01d-17/04 C02f-01/40 C09k-03/32

Removal of oil from waste waters contg. suspended materials is carried out by passing the water downwards through ≥1 bed of oleophilic fibrous material (I) and opt. through ≥1 bed of granular material. The beds are regenerated automatically by passing air and water upwards through the beds in response to a signal representative of the pressure drop.

(I) is capable of trapping emulsified hydrocarbons and hydrocarbons adsorbed on suspended solids without creating an excessive pressure drop, and can be regenerated repeatedly. 8.2.79 as 003221 (9pp367).

STUR/ ★ D15 84856 C/48 ★FR 2448-511
Baked clay brick with holes for making bacterial bed - is sized for stacking in right angled overlap bond without mortar

STURM J P 08.02.79-FR-004089

Q44 (10.10.80) C02f-03/06 E04c-01

Identifying the three dimensions of the brick as length x width x thickness, the length of the brick is equal to twice its width. The brick is made with a multitude of regularly sized holes right through its width, at right angles to the major faces of the brick. When the bricks are stacked in overlap, right-angled bond arrangement, a perculating filter is obtd., suitable as a base for a bacterial bed.

The major faces of the brick should be specially flattened so that they can be bonded in a stack without using mortar.

In each brick, the holes are pref. arranged in the same pattern of regularly spaced ranks and files. In the centre of the length of the brick, an extra row of holes increases the pitch of the two adjacent rows by twice the external wall thickness of the brick.

The holes are pref. of regular geometrical shape in cross-section, e.g. square, round, rectangular, oval.

Used for building up bacterial beds for use in installations, for the purificn. of waste water. In partic. for the treatment effluent heavily polluted with a particular germ or acid, esp. lactic acid in effluent from dairies. Compact bacterial beds result from very high passage surface area in relation to volume. 8.2.79 as 004089 (8pp448).

URBA= ★ D15 84857 C/48 ★FR 2448-512
Activated sludge process and plant to purify waste water - employs high rate of sludge recycling to reduce size of installation

URBAN ECONOMY RES 12.02.79-FR-003522

(10.10.80) C02f-03/12

Process is of the type in which actuated sludge settling out from purified water in a clarification zone is recycled to an aeration zone. Ratio of the flow rate of recycling sludge to the vol. of the clarification zone is maintained between 3 and 12 hrs.$^{-1}$. In cross section, the clarification pref. has downwardly convergent, symmetrical sidewalls and is screened into two, superimposed, communicating zones by an upwardly convergent ridged baffle. Purified water is drawn off at the top of both clarification zones. The sidewalls are pref. inclined to the horizontal at 45-55° and the baffle ridge angle is pref. 70-90°.

Used in biological purificn. of waste water partic. polluted effluent from industrial premises mfg. food prods., paper, textiles, chemicals, plastics, etc. 12.2.79 as 03522 (23pp448).

SERE- ★ D15 84882 C/48 ★FR 2448-746
Flow ratio controller - comprises diaphragms in primary and secondary circuits and differential press. regulator allowing two fluids to be mixed

SERES SOC ETUD REAL 08.02.79-FR-003916

*H03 J04 S03 (T06) (10.10.80) B01j-04 C02f-05 G01n-21/59 G01n-33/18 G05d-07/**

A device for maintaining constant the ratio of the instantaneous flow rates of two fluids which circulate under pressure, in a prim. and in a sec. circuit which join, comprises a diaphragm in the first circuit and a diaphragm in the second circuit upstream of the point of junction of the two circuits and a differential pressure regulator.

The diaphragms have orifices, the ratio of the cross-sections of which is equal to the constant ratio to be maintained. The differential pressure regulator comprises a chamber sepd. into two half chambers by a transverse membrane. The two half chambers are connected by pressure tappings respectively upstream of each of the diaphragms. A double clack valve is incorporated in the sec. circuit upstream of the diaphragm and the pressure tapping of the circuit. The clacks are mounted on a mobile rod integral with the membrane.

Used in the partial softening of waters; in changing the sensitivity of concn. captors of a soln. which presents a max. threshold of measurement; and in measuring the hydrocarbon content of water, partic. ballasting water of petroleum ships. 8.2.79 as 003916 (14pp1192).

DEGM ★ D15 84901 C/48 ★FR 2448-939
Sepn. of colloids from aq. medium by flotation - after treating successively with two polyelectrolytes

DEGREMONT SA 13.02.79-FR-003575

A97 J01 P41 (17.10.80) B01d-17/04 B03d-01/02 C02f-01/56 C11d-01

The process for the sepn. by flotation of organic or mineral colloids from an aq. or aq. emulsion medium comprises treating the medium before flotation successively with two polymers. The first is a polyelectrolyte of MW 1 to 5 x 10^5 having a coagulating effect and having a cationicity of 80-100%. The second is a polyelectrolyte of MW 1 to 6 x 10^6 having a flocculating effect.

The process may be applied to surface water or to urban or industrial waste water. It enables a faster flotation rate and a lower volume of sludge. 13.2.79 as 003575 (9pp597).

HUEJ/ ★ D15 84912 C/48 ★FR 2449-065
Appts. to determine BOD of many samples simultaneously - oscillates sample flasks while each is connected to individual manometer

HUE J P 15.02.79-FR-004320

J04 S03 (17.10.80) C02f-03 G01n-33/18

Sealed flasks contg. different samples are fitted into the appts. The appts. agitated the contents of each flask by a mechanised cyclic tilting action. Simultaneously, each flask is connected to an instrument which indicates the pressure inside the flask. The flasks are pref. fixed to

supporting platforms which are mounted on horizontal pivots and mechanically linked to a motor to obtain the cyclic tilting action.

The appts. can accommodate a hundred or so samples simultaneously compared with a normal 6 and absolute max. of 20 in existing appts. The appts. is inexpensive and uncomplicated to operate. 15.2.79 as 004320 (14pp448).

OMNI ★ D15 84913 C/48 ★FR 2449-066

Denitrification of water by passing through bacterial clay bed - is improved by using descending flow

OMNIUM DASSAINISSE 14.02.79-FR-003693 (02.08.78-FR-022779)

(17.10.80) C02f-03/28

The water is treated biologically in anaerobic medium, according to the principal patent, by passing it through an immersed bed fixed with a baked clay (chamotte) doped with Mo and with a carbonaceous substance added. An improvement comprises passing the water by descending flow through the bed.

The process is applied to drinking water or to waste water. The embodiment avoids washing cycles and the subsequent filtration of the treated water; also the bacteria are better trapped in the bed. 14.2.79 as 003693 Add to 2.8.78 - 022779 (4pp597).

NATR D15 82554 A/46 =GB 1579-885

Countercurrent decantation for liquid treatment of solids - using chambers connected by external liquid lines and valves responsive to weight of solids

NATIONAL RES DEV CORP 03.05.77-GB-018453

*J01 +P43 (26.11.80) *DT2819-459 B01d-21/24 B01j-04 +B01d-11/02*

Countercurrent decantation, e.g. for removing noxious liquors from waste solids, comprises passing solid by gravity from a first cell into a second through a valve and passing liquid in counterflow other than through the valve. The valve is responsive to the amount of solid on it to open, and closes while there is still enough solid on it to prevent mixing of liquid in the two cells.

The solid may be passed further into a third cell below the second through a second valve. Each valve pref. has a sphere which obturates an opening from which surfaces diverge both upwardly and downwardly. 21.4.78 as (14pp1358)

IWSN ★ D15 84930 C/48 ★GB 1579-923

Redn. of residual chromium content from dye-baths - by addn. of alpha-hydroxy:mono:carboxylic acid to fabric contg. bath

IWS NOMINEE LTD 04.06.76-GB-023239

A35 E17 F06 (26.11.80) D06p-05

The residual Cr content of exhausted afterchrome or metachrome dyebaths in reduced by addn. of an α-hydroxy-monocarboxylic acid (I) to the bath in the presence of the dyed materials at pH 3-5.

Amt. of (I) added is ⩾10% pref. 1-6% esp. ca 5% by wt. of fibre. Pred. (I) are lactic, glycollic, and mandelic acids. Dyebath is pref. at pH 3.3-4.3, esp. 3.5-3.9 (adjusted pref. with HCl or HCO_2H).

Exhaustion of Cr from the dyebath is at 60° to the boil, pref. at the boil for 20-30 min. (I) is pref. added during the afterchrome stage.

Simple, cheap method effectively reduces the Cr concn. remaining in the dyebath to levels so that reasonable dilution gives effluents that meet the most stringent pollution criteria (i.e. redn. in the dye liq. before diln. to < 0.6 ppm Cr^{6+} and < 6 ppm Cr^{3+}). In addn., the mechanical props. of the fibres (esp. wool) are improved. 4.6.76 as 23239/76 (3pp478)

BRTO D15 86907 Y/49 =GB 1580-035

Injection of compressed gas into liq. - to improve soln. of the gas in the liq. (NL 22.11.77)

BOC LTD 20.05.76-GB-020928

*J02 (26.11.80) *DT2722-202 B01f-03/04*

Liquid is treated with gas, e.g. for oxygenation of aqueous waste, by passing through a conduit and injecting gas intermittently at a pressure such that some gas is dissolved then introducing the stream with turbulence into the body of liquid so that bubbles are shattered into finer bubbles for easier uptake.

The gas is pref. introduced as 1-second pulses at 150 psig. Liquid slugs may be isolated in the conduit and gas pulsed into each. The stream is pref. formed by extracting liquid from the body. The conduit pref. has a valve on each side of the injector so that slugs can be isolated, the valves being automatically operated in timed sequence. 20.5.77 (+20.5.76-GB-020928) (4pp1358)

TODD/ ★ D15 84945 C/48 ★GB 1580-177

Liq. gasification device - comprises tube with apertured restriction which is immersed vertically in liq.

TODD J J 00.00.75-GB-040802

J02 (26.11.80) B01f-03/04 B01f-05/10

Device for gasifying a liq. comprises a tube which is immersed vertically in the liq. having a lower inlet, an upper outlet and a restriction between the inlet and outlet. Gas is supplied through apertures located at the throat of the restriction to form gas bubbles in liq. flowing through the tube from the inlet to the outlet.

Aeration of liq. contg. aerobically degradable organic matter. 30.6.77 (+1.4.76-GB-040802) (7pp67)

NATR D15 72786 Y/41 =GB 1580-211

Minute gas bubble prodn. - by gas leaving hollow streamlined body at negative pressure point

NATIONAL RES DEV CORP 24.03.76-GB-011852

*J02 (26.11.80) *DT2712-465 B01f-03/04 +B01f-05*

Apparatus for producing fine air bubbles in liquid comprises includes a stationary blade of elongate streamlined cross-section tapering towards one end and mounted in a liquid flow conduit with the tapered end downstream so that the flow creates a varying pressure over the blade surface which is below the ambient liquid pressure.

Air is fed to the blade surface at a reduced pressure point so that it spreads as a thin film over the blade downstream and breaks up into small bubbles at the downstream end. Air may be fed through the blade or via the conduit wall closely adjacent the blade. The apparatus is e.g. for treatment of sewage or fermentation broth or for flotation of small or fragile particles. 17.3.77 (+24.3.76-GB-011852) (4pp1358)

PRES- ★ D15 84958 C/48 ★GB 2047-117

Pressure cooker with electrical heater - with timer controller for heater supply switch and pressure relief valve

PRESTIGE GROUP LTD 02.04.80-GB-011112 (06.04.79-GB-012259)

X27 P28 (26.11.80) A47j-27/08 B01j-03

A cooker has a heater output control with a switch to actuate a member to close the cooker pressure release valve and switch on the heater supply switch. A timer actuates the member to hold the valve closed and the heater on when the control is adjusted to a second output lower than that at first set, for a set time when the valve is opened and the heater switched off.

Heater output is pref. adjusted by a thermostat control or energy regulator. The member is pref. a plate which can slide between two positions, the timer carrying a cam surface to act on the plate. The plate pref. relieves a weight bias on the valve to open it by actuation of a pivotable linkage. 2.4.80 as 011112 (15pp1358)

AGEN ★ D15 84967 C/48 ★GB 2047-223

Organic waste anaerobic digestion process - by first subjecting waste to partial liquefaction without pH adjustment

AGENCY OF IND SCI TECH 24.04.79-JA-049751

(D16) (26.11.80) C02f-03/28

Organic wastes are anaerobically treated. The waste slurry is first partially liquified in the presence of liquifying bacteria of the facultative group which ferment to produce volatile fatty acids. The mixt. is stirred but its pH is not adjusted while maintaining it under anaerobic conditions. The partially liquified slurry is subjected to further liquifaction and gasification by applying liquifying and gasifying bacteria of the obligatory anaerobic bacteria group which ferment to produce methane.

Method is used to treat domestic sewage, farmyard wastes or alcohol distillery waste. Anaerobic digestion can be effected by storing under qualitatively stable conditions the feed organic wastes which are susceptible to decomposition and degeneration that are disadvantageous to anaerobic digestion. 16.4.80 as 012593 (11pp295)

CASB- ★ D15 84982 C/48 ★GB 2047-396

Dewatering liquids and slurries to form powder - by vacuum dewatering on porous conveyor prior to drying, used for pottery effluent and sewage

CASBURT LTD 28.03.80-GB-010601 (29.03.79-GB-011079)

J01 L02 Q76 (26.11.80) F26b-17/04

Appts. for dewatering slurries or liquids has a porous heat resistant conveyor (endless belt of woven glass fibre) which moves through a station where the liq. or slurry is dispensed onto theupper surface of the conveyor, a clamping frame is lowered onto the liq. or slurry layer and dewatering is effected at the station by asuction box below the conveyor. Pressure may also be exerted on the layer by the frame clamp during dewatering.

Lower prodn. costs are achieved c.f. conventional mat evapn. drum driers and band driers. 28.3.80 as 001061 01 (5pp464)

KURS ★ D15 85122 C/48 ★J5 5132-603

Purificn. of water for dialysis purposes - by passing through a hollow fibre tubular membrane from outside to the inside and then trough anion and cation exchange resins

KURARAY KK 04.04.79-JA-041358

J01 P34 (15.10.80) A61m-01/03 B01d-13 B01d-31

Method comprises passing the water through a hollow fibre tube type membrane having average pore dia. of 0.005-0.5 μm and water passing rate of 10-5,000 $l/m^2.hr.Kg/cm^2$ in the direction from the outside to the inside of the membrane and passing the resulting permeated water through two beds of an anion exchanging resin and a cation exchanging resin to remove ions. Purified water is thus obtd. useful in artificial liver devices. 4.4.79 as 041358 (5pp51).

TOYJ ★ D15 85125 C/48 ★J5 5132-606

Treating waste water contg. dye or surfactant - comprise contacting it with an agent contg. adsorbents for anion and cation type water soluble substances

TOYO SODA MFG KK 03.04.79-JA-039272

(15.10.80) B01d-15 B01j-20/08

Waste water contg. a dye or a surfactant is treated to obtain purified water. Treatment comprises contacting an aq.soln. contg. ⩾2 water soluble substances of different ionic polarity with a mixed agent consisting of an adsorbing agent (A) for anion type watersoluble substances and an adsorbing agent (B) for cation type watersoluble substances. (A) is magnesium aluminate or activated magnesia. (B) is magnesium silicate, silicon oxide, or diatom earth.

In an example 0.2 g of an anion type dye and 0.2 g of a cation type dye were dissolved in 2 l of water to obtain an aqueous soln.. Equal amts. of magnesiumaluminate and magnesium silicate were mixed in a V type mixer for 1 hr. to obtain a mixed adsorbing agent. 0.1 g of the agent was mixed with 100 ml of the aq. soln. at room temp. for 3 hrs. to adsorb the dyes. 3.4.79 as 039272 (3pp51).

EBAI ★ D15 85126 C/48 ★J5 5132-607

Adsorbing organic substance from soln. - by contacting with inorganic adsorbent, e.g. active carbon in the presence of oxidising agent, e.g. hydrogen peroxide

EBARA INFILCO KK 04.04.79-JA-040469

(15.10.80) B01d-15 C02f-01/28

The method comprises contacting soln. contg. an organic substance with adsorbent in the presence of an oxidising agent to adsorb the organic substance from the solution. The adsorbent agent is active C, diatomaceous earth, Al silicate, alumina, or silica gel. The oxidising agent is H_2O_2, O_2, O_3, or air. Bad fumes by-produced by decomposition of the substance with bacteria are not generated.

In an example aq. H_2O_2 was added to waste water contg. dissolved oxygen of 5-4 mg/l and organic substances of 8-15 mg/l COD and 20-30 mg/l BOD. The resulting waste water was passed through a packed bed of particle type active C SV of 5 to obtain treated water containing 1 mg/l of dissolved oxygen, 5-7 mg/l of COD, and 6-9 mg/l of BOD. 4.4.79 as 040469 (3pp51).

TANE/ ★ D15 85127 C/48 ★J5 5132-608

Oil-water separator - comprising outer and inner vertical tubes, and draft tube, contg. honeycomb structured filter units, mounted in inner tube

TANEMURA F 31.03.79-JA-039978

H05 J01 (15.10.80) B01d-17/02

A device for sepg. oil and emulsified oil from water e.g. waste waters drained frmo petroleum prodn. facilities is claimed. It comprises outer and inner vertical tubes and a draft tube disposed in the inner tube. The object is to separate the oils without clogging a filtering medium filled in the device.

The draft tube consists of several units connected vertically in series. Each unit consists of a narrow section charged with a honeycomb-structured filtering medium and radially expanded section with taper, so that the water under treatment is forcibly flushed through the medium to separate the oil from the water, while a compressed air is fed into the draft pipe to expand small cells of the medium. 31.3.79 as 039978 (2pp26).

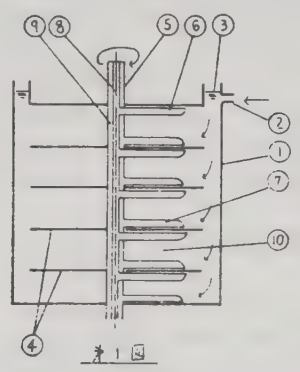
MIUR ★ D15 85128 C/48 ★J5 5132-609

Water purificn. appts. for fast sludge removal - has bars extending from and rotated about shaft at centre of tank to remove sludge from horizontal partitioning plates

MIURA ENG INT KK 02.04.79-JA-040036

(15.10.80) B01d-21/10

In a process for purifying dirty water in a tank contg. active sludge for reducing the BOD in the water, the appts. is modified to allow easy and rapid sepn. of the sludge from water.



Horizontal partitioning plates (4) are vertically arranged with spaces in the tank having a cylindrical shape, but the side edge of each plate is set away from the side wall of the tank. A sludge collector (7) consisting of radially extended bars, each located near the partitioning plate to scrape the sludge thereon, is mounted on a vertical rotary shaft located at the axial centre of the tank. A supernatant collector (6) also consisting of radially expanded bars, each located beneath the plate, is also mounted on the shaft. 2.4.79 as 040036 (2pp26).

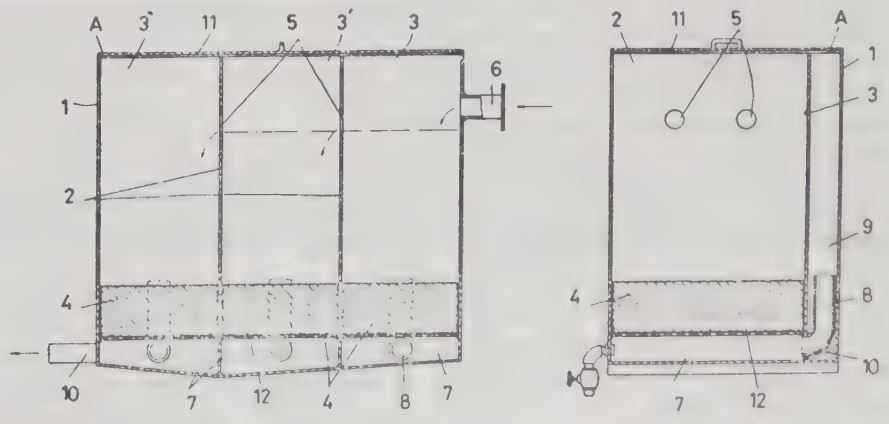
SASA/ ★ D15 85129 C/48 ★J5 5132-610

Water filter appts. - comprises tank contg. a series of filter chambers permitting long term operation

SASAKI Y 04.04.79-JA-041244

(15.10.80) B01d-23/10

A device for filtering waste waters is claimed. It comprises a tank (1), filtering medium (4) charged in chambers



partitioned in the tank, and drain section (7) formed in a

lower space of the tank. The object is to continue a filtering operation for a long time.

Holes are bored through partitioning plates to communicate with each adjacent chambers, which are arranged in series to a water feed port (6) formed at one end of the tank. Pipes (8) are connected to the section to drain a filtrate water from it to another chamber (9), from which ıe water treated is obtd.. When the chamber nearest to the port (6) is degraded for filtration, the water flows into the next chamber through the holes. 4.4.79 as 041244 (2pp26).

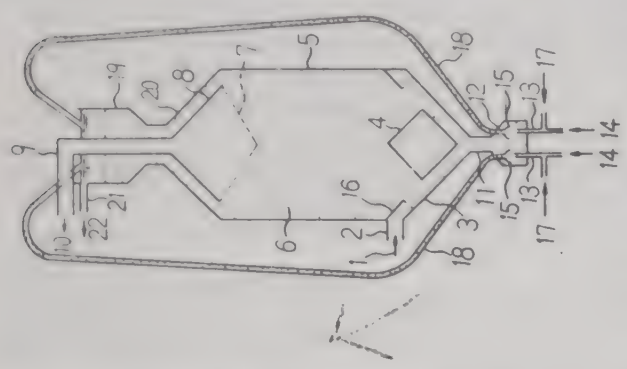
HITB ★ D15 85130 C/48 ★J5 5132-612

Moving bed type filter for treating waste water etc. - Comprises vertical column in which large amt. of filtering medium is moved by air without disturbing filtering area near outlet

HITACHI CHEMICAL KK 02.04.79-JA-040045

(15.10.80) B01d-33

Device comprises a vertical column having a water feed port (1) at a lower section, a pipe (9) for taking out a filtrate water, and a tube (19) for regenerating a filtering medium (granular sand, active carbon, etc.) used in the column. The object is to effectively move a large amt. of filtering medium by air, without disturbing a filtering area near the front end of the pipe (9).



A box is connected to the bottom of the column through a drain pipe (11) to receive the medium dropping from the column and provided with air feed ports, through which the medium is returned via return pipes (18) to the tube (19) communicated with an upper opening of the column. 2.4.79 as 040045 (4pp26).

HIEJ ★ D15 85131 C/48 ★J5 5132-613

Sludge dewatering device - has two filtering cloth belts passing over rollers and diaphragms which can be expanded to press sludge cakes

HITACHI PLANT ENG CONST 02.04.79-JA-040110

(15.10.80) B01d-33/04 C02f-11/12

Device for dewatering sludge cakes formed between two filtering cloth belts passing over feed and idle rollers is claimed. The object is to easily dewater and increase the dewatering efficiency. Each belt is made endless.

Filters plates 12, 14 and diaphragms 13, 15 are opposed so as to hold the belts between them. A feeder 16 is disposed above one end of one (upper) filter belt to feed raw sludge onto the other belt (lower) during movement of the filter belts between the plates and diaphragms, which can be expanded by a compressed air or high pressure water fed from its source to forcibly press the sludge cakes. 2.4.79 as 040110 (3pp26).

HAYA/ ★ D15 85132 C/48 ★J5 5132-614

Filtering method - by electro-permeable dehydration or waste sludge using iron chloride or manganese di:oxide catalyst and hydrogen peroxide oxidising agent

HAYAKAWA T 31.03.79-JA-038676

J01 (15.10.80) B01d-13/02 B01d-35/06

Method comprises applying direct current to a filter material to electropermeably dehydrate a waste sludge. The improvement comprises adding Fe chloride or MnO_2 dioxide as a catalyst and H_2O_2 as an oxidising agent to the filter material, and dehydrating.

An anode plate is positioned on an upper filter cloth and a cathode plate is positioned below a lower filter cloth. Waste sludge is electropermeably dehydrated between the upper and lower filter clothes by applying current to the electrodes, where the water contd. in the sludge is transferred from the anode plate to the cathode plate.

There are two layers of high dehydrating properties formed on the filter clothes by H_2O_2 and the catalyst contd. in the sludge. Dehydration is rapidly carried out. 31.3.79 as 038676 (3pp51).

EBAI ★ D15 85142 C/48 ★J5 5132-625

Device for agglomerating suspended solids in liq. waste - in which each stirring unit consists of disc fixed to shaft, blades on one side of disc and hollow tube on blade

EBARA INFILCO KK 03.04.79-JA-039927

(15.10.80) B01d-21 B01j-02/06

A device for agglomerating suspended solids contained in a liquid such as dirty water and waste water, comprises a horizontal or vertical tank having a liquid feed and drain ports at both ends, and stirrer consisting of a rotary shaft and stirring units mounted on the shaft located in the tank at its axial centre. The object is to increase the growth rate of compact aggregates of the solids.

Each stirring unit consists of a disc fixed to the shaft, blades mounted on one side of the disc, and a hollow tube disposed at the blade side coaxially to the shaft and fixed to the outer edge of each blade, which may be bent. 3.4.79 as 039927 (4pp26).

AGEN ★ D15 85148 C/48 ★J5 5132-633

Arsenic absorbing agent - comprising granulate red mud by-produced in alumina mfr.

AGENCY OF IND SCI TECH 30.03.79-JA-039081

E22 J01 (E33) (15.10.80) B01j-20/02 C02f-01/28

The absorbing agent is not affected by the presence of other salts, e.g. NaCl, $CaCl_2$ and Na_2SO_4 as much as 0.1 mol/L, and the arsenic absorbed by the red mud may readily eluted by relatively dil. aq. alkali soln.

In an example aq. arsenic acid soln. contg. 10 ppm of As was placed in an Erlenmyer flask and red mud powder added and shaken under various pH values. Then, the red mud were centrifuged. 30.3.79 as 039081 (3pp96).

VOLC- ★ D15 85157 C/48 ★J5 5132-655

Nozzle for spraying dirty water etc. into incinerator - comprising nozzle pipe fitted into outer pipe and nozzle cap giving variable spray angle

VOLCANO KK 04.04.79-JA-041430

J09 P42 (15.10.80) B05b-01/06 B05b-07/08

Nozzle is for spraying dirty water etc. into an incinerator. Dirty water must be atomised before feeding it into the incinerator. Object is to atomise the water without clogging the nozzle and vary the angle of spray zone. Nozzle pipe (I) is fitted into an outer pipe (II) to form a passage of a high-pressure spray medium between both pipes. Nozzle cap is mounted on the top end of the nozzle pipe and engaged with the outer pipe through threaded sections, so that the cap is movable axially by turning it relative to the pipe to vary the spray zone formed in front of the top end of the nozzle pipe. Cap has an annular edge around the outside top edge of the nozzle pipe. 4.4.79 as 041430 (4pp26).

EBAI ★ D15 85162 C/48 ★J5 5132-685

Removal of silicic acid from water by contacting with aluminium metal - in presence of acid or alkali then neutralising and sepg. pptd. hydrolysis prod. by sedimentation and/or filtration

EBARA INFILCO KK 05.03.79-JA-025976

A97 E36 (15.10.80) C02f-01/52

Process comprises contacting the water with metal Al, in the presence of acid or alkali, then neutralising to produce a hydrolysis product of Al. The resultant is sepd. into solid and liquid phases.

Silic acid removal ratio of 60-70% is achieved by treating of waste water contg. 10-7 mg/l of silicic acid ingredient for 40 hrs. as against 10-20% in conventional pptn. methods using $Al(OH)_3$ flocculant. Organic oxyacid and flocculants may be added prior to the sepn. step. to promote the adsorption of silicic acid. At the sepn. stage, inorganic flocculant(s) such as sodium aluminate, ferric sulphate and polymer flocculant may be added to accelerate sedimentation and/or filtration.

In an example underground water contg. 25 mg/l of licic acid and 320 mg/l of total soluble solids is adjusted PH 3, 5 by adding 5% H_2SO_4, then passed through a ayer 60 cm thick of Al thin plates of 1 cm^2. The eluate s adjusted to PH 6, 8-7, 2 by 5% sodium carbonate soln., nen polyacrylicacid flocculant is added to give a concn. , 5 mg/l in the eluate. Then a sedimentation and filtering epn. is conducted. Performance of 60-70% removal ratio s presented. 5.3.79 as 025976 (3pp168).

MITS- ★ D15 85163 C/48 ★J5 5132-686
Treating waste water contg.. aluminium fluoride and alkali fluoride by adding calcium salt, pref. hydroxide and sepg. ppte.
MITSUBISHI KEIKINZO 03.04.79-JA-039964
E37 (15.10.80) C02f-01/58

Treatment of waste water contg. fluorine comprises adding Ca salt(s), pref. $Ca(OH)_2$ to the fluorine-containing waste water which consists of mixt. of waste water contg. luminium fluoride and waste water contg. alkaline fluoride, to ppte. reaction prods., then sepg. the produced olid phase and thereby removing fluorine from the waste vater.

Prior art methods required independent clarification of AlF_3-contg. water and of alkali fluoride-contg. water. Process is simplified. 3.4.79 as 039964 (3pp).

JAOR ★ D15 85164 C/48 ★J5 5132-688
Oxidative decomposition of hydrazine in aq. soln. - by contacting with ozone-contg gas in two reaction towers, the first in the series being free of filler
JAPAN ORGANO KK 02.04.79-JA-038363
E36 (15.10.80) C02f-01/78

The process is effected by using first reaction tower contg. no filler second reaction tower contg. filler, introducing ozone-contg. gas from lower parts of both towers into the towers, while passing the aq. soln. from upper part of the first tower downwardly to decompose hydrazine in the soln. partially, until the concn. of hydrazine in the soln. is decreased within the level of 30-70 mg/l, then passing the soln. discharged of first tower to second tower to decompose unreacted hydrazine with ozone-contg. gas.

Decomposition of hydrazine in water proceeds easily and quickly in the earlier stage of reaction. Contacting period of ozone-contg. gas with hydrazine-contg. water s pref. 30 min.-2 hrs. in first reactor and 30 min.-2 hrs. in second reactor. The use of 1, 5-2 times of ozone amt. of theoretical equiv. in second reactor is pref.. 2.4.79 as 038363 (4pp168).

SHIG/ ★ D15 85165 C/48 ★J5 5132-689
Waste water treatment process - with aerobic and anaerobic digestion effected simultaneously using mixt. of high and low density fillers
SHIGETOMI Y 03.04.79-JA-040817
A88 (15.10.80) C02f-03/06

Aerobic and anaerobic digestion of waste water are simultaneously conducted using a mixt. of filler having high density and a filler having low density, in a tank provided with a water storing chamber, 1st, 2nd and 3rd digestion chambers, a final treatment chamber, channels and an outlet.

Low density filler pref. has porosity ~ 70%, and is e.g., plastics net and wire, synthetic fibre or wovens; high density filler is e.g., vulcanised polystyrene or polyurethane.

Waste water treatment can be easily conducted in only one clarification area in compact installation by simultaneous aerobic and anaerobic digestions. 3.4.79 as 040817 (4pp168).

NISC ★ D15 85167 C/48 ★J5 5132-698
Scale formation prevention - by addn. of aluminium ion and acidic ion(s) into acidic liq. contg. calcium oxalate
NISSAN CHEM IND KK 05.04.79-JA-040350
E19 F09 (E33 E36) (15.10.80) C02f-05 C23f-14

Method for preventing scale formation comprises introducing (1) Al ion and (2) ≥1 acidic anion(s) selected from HCl; HNO_3, sulphamic acid, formic acid, acetic acid, propionic acid, oxalic acid, glycolic acid, malonic acid, butyric acid, tartaric acid, citric acid and gluconic acid, pref. sulphamic acid, into acidic liq. contg. Ca oxalate in ratio 3 equiv. of Al ion to 0, 33-6, 0 equivs. of acidic. Total concn. of Al ion plus anions is 10-10000 ppm.

Scale occurring in processing of waste from sulphite pulp process, bottom liq. in whisky distn. and waste from sugar clarification has complicated tissue structure but consists of Ca oxalate and other ingredients. Combination of Al ion and several anions, esp. sulphamic anion prevents deposition of scale on the wall of processor appts.. Method is partic. useful for preventing scale formation on appts. for vegetable material handling. 5.4.79 as 040350 (5pp168).

SANN ★ D15 85260 C/48 ★J5 5133-404
Mfg. water-in-oil polymer emulsion used e.g. as flocculant - by polymerising water-soluble vinyl monomer using free radical generating polymerisation initiator
SANYO CHEM IND LTD 04.04.79-JA-041422
A14 F09 (17.10.80) C08f-02/32

Prodn. comprises polymerising water-soluble vinyl monomer in the presence of water, surfactant and hydrophobic organic liq. by using polymerisation initiator generating free-radical. Method comprises polymerising ≥ 50% of the vinyl monomer by using oil-soluble initiator and polymerising the remaining monomer by using water-soluble initiator to obtain the polymer emulsion with low-content of residual monomer.

Pref. the oil-soluble and water-soluble initiator are azo-cpds.. As the oil-soluble initiator, azobis(dimethyl)-valeronitrile, azobis(cyanovaleric acid), azobis(cyclohexane-carbonitrile) or azobis(isoethylacetic methyl) is used pref. and as the water-soluble initiator, azobis(sodium cyanovalerate), azobis(amidinopropane)nitrate, azobis-(amidopropane)acetate or azobis(N, N'-dimethylisobutylaidine)nitrate is used pref.. The vinyl monomer is acrylamide, methacrylamide, acrylic acid (sodium), methacryalic acid (sodium), vinylsulphonic acid (sodium), acrylamidepropanesulphonic acid (sodium), methacryloyloxyethyltrimethylammonium chloride, vinylbenzyltrimethylammonium chloride or dimethylaminoethylmethacrylate.

The polymer emulsion useful as flocculant (treating agent of various waste water) and chemical agent for paper making is obtd. at high reaction rate. 4.4.79 as 041422 (5pp78).

SANK- ★ D15 85503 C/48 ★J5 5134-609
Removing oil from waste water - employing oil-water separator tank contg. fibre layer support plates and pretreating tank
SANKO ENG KK 06.04.79-JA-041123
J01 (20.10.80) B01d-17/02 C02f-01/28

A device for treating waste waters contg. oils is claimed. It is usable for treating waste waters drained from machinery factories etc.. The device comprises a oil-water separator tank adjacent to a pretreating tank, oil separators in the former tank, and partitioning wall disposed in the latter tank. The object is to easily remove oils from waters, without clogging, and ensure long operating life.

Each oil separator comprises a frame having drain pipes, fibre layer support plates like lattice, net or porous plate, which cover the both sides of the frame, and fibre layer laid on each support plate to adsorb the oil content. 6.4.79 as 041123 (4pp26).

MITV ★ D15 85504 C/48 ★J5 5134-611
Dissolving solid agglomerant in waste waters - by use of dissolving tank and an agglomerant tank above a drum with a conical shape and a sprayer
MITSUBISHI METAL KK 05.04.79-JA-041251
(20.10.80) B01d-21/ B01f-01*

Method and device for dissolving solid agglomerates from agglomerating fine solids and colloids in waste waters are claimed. The object is to homogeneously dissolve the agglomerant.

A dissolving tank is located beneath a drum having

a conical bottom face. An agglomerant tank is disposed above the drum to drop into a solvent jetted from a sprayer for forming a spirally turning flow of the solvent in the drum over its conical bottom face. To realise this, the sprayer has nozzles directed in respective tangential direction to the bottom face. 5.4.79 as 041251 (3pp26).

NISO- ★ D15 85505 C/48 ★J5 5134-612

Collecting mud by sedimentation appts. - involves adding coagulant to sludge at a position well spaced from mud exhaust port

NIPPON SOLID KK 05.04.79-JA-040368

A97 J01 (20.10.80) B01d-21/24

Process for collecting mud by sedimentation appts. equipped with mud exhaust port at the bottom of it, which comprises adding coagulant to sludge far away from the mud exhaust port.

This process makes possible to effectively collect sludge consisting of fine particles.

Coagulant injecting pipe is installed along with scraper truss, and coagulant is injected from its end, and stirred by the rotation of the scraper, by which fine particles are agglomerated, and collected near mud exhaust port of the appts.. Coagulant used in this process includes inorganic substances e.g. aluminium sulphate, iron salts, polyaluminium chloride, and organic substances e.g. sodium alginate, polysodium acrylate, water soluble aniline hydrochloride, polyvinylpyridine hydrochloride, polyacrylamide, and gelatin. One or two kinds of coagulants may be used according to the properties of sludge. 5.4.79 as 040368 (2pp96).

HITA ★ D15 85506 C/48 ★J5 5134-613

Controlling pptd. sludge drain rate - at bottom of final sedimentation pond in water treatment plant

HITACHI KK 09.04.79-JA-042059

(20.10.80) B01d-21/24 C02f-03/21

The sludge pptd. in the pond is once moved into a sludge reserve pit by means of siphon and then drained from the pit. To hold the treating efficiency of an aeration tank with active sludge constant, the return rate of the drained sludge is controlled to maintain the active sludge concn. against variation of the water feed rate.

An overflow weir is movably mounted on the drain end edge of the pit and moved to control the overflowing sludge drain rate, depending on the return sludge rate. 9.4.79 as 042059 (4pp26).

NITT- ★ D15 85507 C/48 ★J5 5134-614

Waste water filter system - has vertically movable porous plate at lower end of vertical shaft inserted into tank to facilitate regeneration of filter medium

NITTO KAKO KK 10.04.79-JA-042453

(20.10.80) B01d-23/24

Device for filtering liq. such as waste water comprises a filter tank contg. fibrous filtering medium. The object is to regenerate the medium using a reduced amt. of washing liquid.

A movable porous plate is horizontally mounted at the lower end of a vertical shaft inserted into the tank. Fibrous filaments of the filtering medium are fixed to the porous plate at their upper ends to hang down over a fixed porous plate. Upon washing the filter medium, a handle connected to the upper end of the shaft, outside the tank, is operated to move the movable plate vertically, while a drain valve of the tank is opened to allow the filtrate to flow down through the medium. 10.4.79 as 042453 (4pp).

HITA ★ D15 85508 C/48 ★J5 5134-618

Bacteria-contg. sludge concentrator - comprising rotary discs mounted on horizontal shaft above a sludge tank so as to be half immersed and scraper and squeezing roll

HITACHI KK 06.04.79-JA-040929

(20.10.80) B01d-33/22 C02f-03/08 C02f-11/12

Device for concentrating sludge produced from treatment of sewage or waste waters is claimed. The sludge contains bacteria and solid gels in slurry and must first be concentrated to effectively treat the sludge in the later process. The object is to effectively concentrate the sludge at low cost.

One or more rotary discs are mounted on a horizontal shaft disposed above a sludge tank so as to half be immersed in the sludge and in contact with a scraper and liquid squeezing roll. Each disc consists of an inner layer of rigid plate and outer elastic porous layer for filtering the sludge. The scraper is disposed so as to compress the elastic layer. 6.4.79 as 040929 (5pp26).

EBAI ★ D15 85509 C/48 ★J5 5134-619

Dewatering sludge and slurry - by ultrasonic vibration and compression by plate with filter cloth belt

EBARA INFILCO KK 09.04.79-JA-042887

J01 (20.10.80) B01d-37 C02f-11/12

A method for dewatering a slurry of sludge or other muddy substances which are difficult to filter is claimed. The object is to effectively dewater the slurry and increase the dewatering rate to form cake with less water content.

An ultrasonic oscillator is connected to the bottom of a slurry tank through a horn. The frequency of ultrasonic wave is set in a range of 1kHz to 1MHz, and its amplitude is 0.1 - 10μ, while the slurry is compressed by a porous plate or compression plate combined with a filter cloth belt, at a rate of 0.5 to 100 kgf/cm^2. Before application of the ultrasonic vibration, the slurry is dewatered with use of a screen after agglomeration of fine solids contained in the slurry. 9.4.79 as 042887 (7pp26).

TKYT ★ D15 85512 C/48 ★J5 5134-623

Filter element for liq. or gas - comprising helically wound perforated or porous pipe

TOTOKU ELECTRIC KK 06.04.79-JA-041814

J01 (20.10.80) B01d-25/20 B01d-39/20 B01d-46/40

A filter element to be used in a filter equipment for removing solids floating in liq. or gas such as waste waters and dirty air is claimed. The object is to provide a filter element capable of easily filtering off floating grains of grain size $< 40\ \mu$.

A filter filament having a rectangular or square cross section and recesses formed on one face or two opposite faces of the filament is wound spirally around a perforated or porouspipe having a deformed polygonal cross section so that the turns of the filaments are arranged side by side to form slits, each defined by the recess and contacted side face of the filament. 6.4.79 as 041814 (4pp).

NAGA- ★ D15 85525 C/48 ★J5 5134-640

Heavy metal adsorbent prodn. - by mixing bentonite with fly ash, kneading with water, calcining and dividing into particles

NAGASAKI-KEN 05.04.79-JA-040797

J01 M25 (20.10.80) B01j-20/29

New method produces heavy metal adsorbing agent used for removing or recovering heavy metals from waste industrial water. Method comprises mixing bentonite with fly ash which is a by prod. from burning powdery coal in a boiler to obtain a mixt., kneading the mixt. with water, calcining and dividing it to produce a particulate heavy metal adsorbing agent.

In an example fly ash mainly consisting of Al_2O_3 and SiO_2, 10 wt.% of bentonite, and 10 wt.% of water were kneaded. The kneaded substance was calcined at 800-1,000°C for 3 hours, and divided to 6-14 mesh to obtain a particulate heavy metal adsorbing agent. The agent was contacted with an aq. soln. contg. a heavy metal, e.g. Zn, Cr, or Pd, to adsorb the heavy metal. 5.4.79 as 040797 (3pp51).

EBAI ★ D15 85533 C/48 ★J5 5134-687

Solidification of finely powdered waste e.g. from furnace - by hydrolysing metal salt present, dewatering and solidifying by adding calcium cpd. esp. calcium hydroxide

EBARA INFILCO KK 07.04.79-JA-042415

J01 P43 (20.10.80) B09b-03

Finely powdered wastes, e.g. ash resulting from incineration of municipal disposal, sewage sludge, sludge and Hedoro etc., dust discharged from waste gas purificn. in boiler andheating furnace, etc. is economically solidified without any leaching-out of deleterious substances, e.g. heavy metal components etc. by treating the wastes

under such a pH value that hydrolysable metal salts contained in the wastes are converted into hydrolysed prods., dewatering the wastes thus treated, and subsequently solidifying the dewatered prod. by the use of Ca cpd., e.g. $Ca(OH)_2$, CaO, $CaCO_3$, $CaSO_4$ and $CaCl_2$ etc., the amt. of which is > 10 wt.% calculated in terms of CaO.

$Ca(OH)_2$ is most suitably used as the Ca cpd., but Ca-bearing incinerated residue and sludge resulting from water treatment as well as lime stone, dolomite, carbide waste, wasted shell etc may be used. If necessary solidification accelerator is used in combination with the Ca cpd. other additives, e.g. diatomaceous earth, silica stone, water glass, sand, kaolinite, zeolite, $Al(OH)_3$, Al_2O_3 and red mud etc.. 7.4.79 as 042415 (5pp34).

KANA/ ★ D15 85534 C/48 ★J5 5134-688

Adsorption removal of ammonia from water - using montmorillonite clay layer

KANAI M 06.04.79-JA-041809

E35 (20.10.80) C02f-01/28

Ammonia is removed by adsorption from water by passage through a filter layer of pulverised dried granules of clays composed mainly of montmorillonite.

Removability of ammonia was 80-90% when the thickness of the filter layer was a few cms. Filter layer may be used in combination with another filter medium, e.g. sand etc. to effect uniform filtration, and the sand filter medium is provided on the clay filter layer and formed on a support layer. Clay filter layer is reproduced at the outside of the system in the form of an unit. 6.4.79 as 041809 (1pp34).

EBAI ★ D15 85535 C/48 ★J5 5134-689

Removing impurities from condensates to prevent scaling and corrosion - by passing through a strong acidic cation exchange resin layer and through a mixed resin layer

EBARA INFILCO KK 05.04.79-JA-041419

(20.10.80) C02f-01/42

Impurities are effectively removed from a condensate to prevent formation of scales in boilers and turbines etc. and also to prevent corrosion. Method comprises providing a mixed resin layer composed of layers of strong acidic cation exchange resin and strong basic anion exchange resin, in a desalination tower layed down so that they are directly in contact together to form a composite resin layer, and passing the condensate to be treated through the layers.

Pressure loss is effectively suppressed, the quality of treated water is improved and the amt. of the treated water is increased both under ordinary operation and condensor leaking operation even in H-OH cycle or in NH_4-OH cycle. In formation of the composite resin layer in the desalination tower, the mixed resin layer is formed at the upper part of the storage vessel and the strong cation exchange resin layer at the lower part before transfer to the desalination tower. 5.4.79 as 041419 (4pp34).

KOBA- ★ D15 85536 C/48 ★J5 5134-693

Removing colourants and other organic material from waste water - obtd. from biological treatment of sewage, by adding calcium cpd. and polymer flocculant in two stages

KOBAYASHI KANKYO KA 09.04.79-JA-042038

A97 (20.10.80) C02f-01/52

Method comprises adding and mixing Ca cpd. and polymer flocculant(s) to the waste water from biological treatment of human and livestock sewage to produce flocculant precipitates. This is followed by adding and mixing calcium chloride and further polymer flocculant(s) to produce flocculant precipitates.

Strongly cationic flocculants e.g. polyethyleneamine-vinyl pyridine, are esp. effective as the polymer flocculants. 9.4.79 as 042038 (8pp).

HITA ★ D15 85537 C/48 ★J5 5134-699

Biological denitration of waste water - by culturing novel microorganism Alcaligenes faececalis HRL-1 in presence of magnesium ion and adding to waste water in treatment tank

HITACHI KK 06.04.79-JA-040984

(20.10.80) C02f-03/34 C12n-01/20 C12r-01/05

Method comprises culturing a novel stock of microorganism Alcaligenes Faecalis HRL-1 (FERM No. 4564) in the presence of Mg ion, and adding cultured bacteria cells to waste water in treating tank. Identification of the new stock was made according to Bergey's Manual of Determinative Bacteriology 7th. Edition in which, morphological nature, colouring, appearance, nutrient-assimilation in various culture mediums, physiological natures of the stock are that of Alcaligenes group, except that urease is positive, slight peptonisation occurs in BCP milk culture and there is no growth at 37°C.

Speed of nitrogen gas generation by this novel stock is almost twice that of Pseudomonas Aeroginosa IFO No. 3445, and improved activated sludge is obtd. so scale down of denitrogenation tank is possible. New stock of bacteria also produces flocks of high density, so pptn. tank is also smaller. 6.4.79 as 040984 (15pp168).

FJIE ★ D15 85538 C/48 ★J5 5134-700

Control of carbon source introduction - into waste for biological denitrogenation by detection of removal speed of nitric and nitrous material

FUJI ELECTRIC CO LTD 05.04.79-JA-041331

(20.10.80) C02f-03/34

In biological denitrogenation of nitric/nitrous ion in waste water by anaerobic treatment with suitable microorganism(s), in the presence of C sources, an improved control method for introducing C sources e.g. methanol, comprises detecting the removal speed of nitric/nitrous materials obtd. from the N gas generated in air and dissolved in the waste water, then estimating consumption speed of the C sources and introducing a slight excess than that consumed amt. of C sources into the waste water, which is defined by the expression $g/Q - \beta \frac{f - fa}{Q} - \Delta Dn$.

In the expression, g is N gas quantity generated by mg/ min.; Q is waste water vol. by l/ min., β is constant, f is theoretical quantity of C source, fa is actual demanded methanol quantity to be introduced with the excess part; ΔDn is discrepance between dissolved N in the waste water being treated and N in the waste water being untreated in the inlet.

Neccessory and enough C sources are easily introduced and thereby, anaerobic treatment, which is more effective than aerobic treatment is possible. 5.4.79 as 041331 (20pp).

SATA- ★ D15 85565 C/48 ★J8 0042-842

Stirring and concentrating waste water - by adding an agglomerant, stirring one way to forms flocs and then the other to cause pptn.

SATAKE KAGAKU KIKAI 26.01.76-JA-007682

(01.11.80) B01d-21/02 B01f-07/16

An industrial waste water is stirred and concd. by adding an agglomerant to it. A stirrer consisting of stirring blades mounted on a vertical rotary shaft inserted into a tank is rotated slowly in one direction to form gross flock and then rotated in the opposite direction to ppte. the flock. 26.1.76 as 007682. B01d 21/02; B01f 7/16 (1.11.80) SATAKE KAGAKU KIKAI KOGYO KK (3pp26)(J52090864)

KURK ★ D15 85566 C/48 ★J8 0042-844

Appts. for treating liq. or suspension - comprises stirrer, sludge draining and returning means and means for draining very fine solids from tank bottom

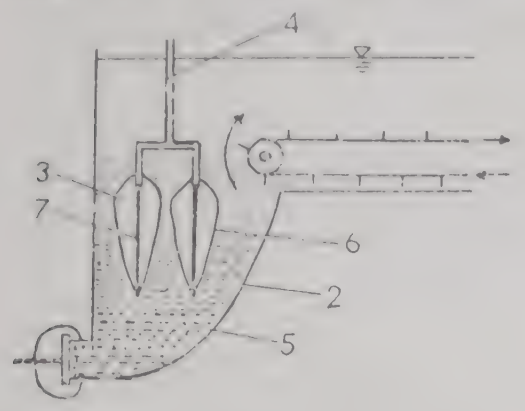
KURITA WATER IND KK 29.09.76-JA-115934

*(01.11.80) B01d-21/**

Appts. comprises (a) a stirrer for forming a turning flow of the water in a water tank to form a sludge blanket of aggregated flock; (b) means for draining the blanket; (c) means for returning the drained blanket to a lower and middle area in the tank; and (d) means for draining very fine solids from the bottom of the tank. 29.9.76 as 115934.

B01d 21/01 (1.11.80) KURITA WATER IND. KK (4pp26) (J53042441)

HAZA- ★ D15 85567 C/48 ★J8 0042-845
Sludge compression tube - where tube is inserted into sludge pit ppte. then compressed air introduced to expand outer closed tubular film
HAZAMA GUMI KK 19.11.76-JA-138449
*(01.11.80) B01d-21/**
An expandable long tube has an elastically expandable outer closed tubular film and pipe inserted into the film. The pipe is connected to a compressed air source to expand the film after inserting the entire tube into a ppte. in a sludge pit of a sedimentation tank.



19.11.76 as 138449. B01d 21/01 (1.11.80) HAZAMA GUMI KK (3pp26)(J53063752)

MITO ★ D15 85568 C/48 ★J8 0042-846
Sedimentation pond scraper carrier - comprising wheels mounted on rail located below water surface
MITSUBISHI HEAVY IND KK 19.03.75-JA-032268
(01.11.80) B01d-21/06
Device for moving a scraper over a sedimentation pond of a water purificn. plant comprises wheels for carrying the scraper and a rail, on which the wheels are mounted. Rail is located several mm. below the water surface of the pond so as to be immersed always in water. 19.3.75 as 032268. B01d 21/06 (1.11.80) MITSUBISHI HEAVY IND. KK (3pp26)(J51107657)

HITA- ★ D15 85569 C/48 ★J8 0042-847
Scooping up pptd. sand in pond - by moving bucket conveyor belt in pond at specific depth
HITACHI KIDEN KOGYO 31.10.74-JA-126274
(01.11.80) B01d-21/18
Pptd. sand in a sedimentation pond is scooped up by moving a bucket conveyor belt in the pond, such that the depth level of the belt in the pond is measured by a counter and compared with a previously stored value to determine the depth for scooping. The operation is repeated for other stored values. 31.10.74 as 126274. B01d 21/18 (1.11.80) HITACHI KIDEN KOGYO KK (5pp26)(J51052650)

FURM ★ D15 85570 C/48 ★J8 0042-848
Solid waste feed tank - including scoop-conveyor and gathering plate
FURUKAWA MINING CO LTD 16.11.76-JA-137650
J01 (01.11.80) B01d-21/24
Tank for feeding solid waste stored in the tank of a treatment plant at a constant rate comprises a scooping-up conveyor in the tank and a plate for gathering the wastes towards the conveyor. The plate is rotatably pivoted to the bottom of the tank. 16.11.76 as 137650. B01d 21/24 (1.11.80) FURUKAWA MINING CO., LTD. (3pp26) (J53062371)

KURK D15 14743 A/08 = J8 0042-875
Waste liquor treated with hydrogen peroxide soln. - to decompose COD components
KURITA KASEN KK 25.06.76-JA-074492
*E36 (01.11.80) *J53001-956 + C02f-01/72*
In treating a waste liquor contg. COD components (a large amt. of heavy metal ions and free acids etc.), esp. resulted in washing oxide scale sticking to the surface of metal material of a boiler, a heat-exchanger or other plant with an acid liquor comprising an inorganic acid. e.g. HCl and H_2SO_4 etc., or an organic acid, e.g., citric acid or malic acid etc., also contg. in some case a thiourea-type Cu-masking agent and an organic anti-corrosive agent, etc., with a H_2O_2 soln. to decompose the COD components, the improvement comprises introducing the H_2O_2 soln. into the waste liquor in a vessel from spraying pipes arranged almost entirely on the surface of the liquor or nearby (in some case under floated state).

The H_2O_2 soln. is supplied to the entire surface of the liquor, so that gradient in H_2O_2 concn. is restricted only in depth direction and the H_2O_2 soln. is uniformly dispersed therein within a short period by the action of gravity, thereby all of the COD components in the liquor are in contact with the H_2O_2 soln. and its oxidn. decompsn. efficiency is increased. 25.6.76 as 074492. C02f 1/72 (1.11.80) KURITA KASEN KK (4pp)(J53001956)

SUMI- D15 55375 B/30 = J8 0042-878
Treating organic waste water with activated sludge - adding 2-chloro: 6-tri-chloromethyl-pyridine as nitrifying inhibitor
SUMIKIN KAKO KK 28.11.77-JA-143141
*(01.11.80) *J54075-163 + C02f-03/12*
Organic waste water, e.g. sewage, human wastes, nitrile mfg. waste water or waste water contg. ammonia, ammonium salts, organic nitrogen cpds. is treated by using an activated sludge, but not nitrification, 2-chloro-6-trichloromethylpyridine (I) as a nitrifying inhibitor is added with an emulsifier to waste water, aeration tank, sedimentation basin, or return sludge.

Toxicant action on BOD bacteria can be eliminated and thus the lowering of BOD treatment efficiency can be avoided. The COD and BOD contents in activated sludge treatment liquor can be reduced because the formation of NO_2^- is prevented. Trouble such as the floating of sludge, etc., can be avoided. The treating efficiency can be increased. 28.11.77 as 143141. C02f 3/12 (1.11.80) SUMIKIN KAKO KK (6pp)(J54075163)

LEBE- D15 80849 A/45 = J8 0042-957
Moulding compsn. for corrosion resistant structures - contains plastic sulphur obtd. by reacting sulphur and cyclopentadiene or its polymer, asbestos and silica
LEBEN UTILITY KK 14.03.77-JA-028187
*A12 P64 (A60) (04.11.80) *J53112-922 C04b-19/06*
Mouldable compsn. is composed of plastic sulphur (obtd. by the reaction of 45-55 pts. wt. sulphur and 1-10 pts. wt. cyclopentadiene or its polymer), 8-12 pts. wt. of asbestos wetted by 0.5-5 pts. wt. of monoterpene hydrocarbons and 25-40 pts. wt. of silica powder. Pref. the plastic sulphur is obtd. by the reaction of 45-55 pts. wt. of sulphur, 1-10 pts. wt. of cyclopentadiene or its polymer and < 5 pts. wt. of styrene. The compsn. is moulded by pressing, (if necessary, after heating to 120-140°C).

The compsn. has high resistance to corrosion, high strength (e.g., breaking strength: 2515-4715 p.s.i.) and durability, and is suitable for structures used in corrosive waste water (e.g., acidic sewage, industrial filtrate, acidic mine waste water). 14.3.77 as 028187. C04b 19/06 (4.11.80) LEBEN UTILITY KK (5pp)(J53112922)

STAM ★ D15 85611 C/48 ★NL 7903-623
Purification of urea-contg. effluent water - by heating at elevated temp. and pressure to hydrolyse urea and recover ammonia and desorption zones
STAMICARBON BV 09.05.79-NL-003623
A41 C04 E16 (11.11.80) C02f-01 02 C07d-251/60
Effluent water is treated at elevated temp. and press. to cause hydrolysis of the urea. The purification is carried out in combination with the sepn. of largely pure NH_3 and largely pure CO_2 from mixts of these, opt. with water, in a NH_3-sepn. zone, a CO_2 sepn. zone and a desorption zone, the effluent water being added to one of these zones.

The process gives purified water contg only traces of NH_3, CO_2 or urea. The purification may be carried out as an integral part of a urea- or urea and melamine prodn. unit so that the CO_2 and NH_3 are recycled directly into the process 9 5 79 as 003623 (12pp513)

ORT- ★ D15 C/48 ★NO 7901-172
protor
MORTEN ENGEBRETSEN 06.04.79-NO-001172
(03.11.80) C02c

AIT/ ★ D15 C/48 ★SF 7900-856
ewage water treatment - and further processing of separated solid atter for earth improvement purposes
RAITA TA 14.03.79-SF-000856
(31.10.80) C02c

AGAF D15 66102 X/35 =SU-728-710
ispersion of gas in a liq - in nearly horizontal streams giving noderate interfacial area with low pressure drop
MAGYAR ASVANYLOLAI FOLDG 12.02.75-HU-MA2650
*J02 (15.04.80) *NL7512-506 C02c-01/10 + C02d-01/02*
Gas is injected into liq with which it to react and which t is to mix, 50-500mm pref 100-300mm above the bottom of the liq container. The gas is injected over part of the horizontal area of the container(⩾50%). The gas stream enters the liq at a small angle(⩾60%). to the horizontal (above or below). The gas forms bubbles 0.2-3mm in dia. moving at 5-150ms^{-1}. Used esp. in treatment of large vols of waste water with oxygen. The gas induces circulation and mixing in the liq and the bubbles are injected so that they tend not to coalesce. The interfacial area is thus reasonably large, the pressure drop across the distributor is small and no stirrer is required.
Nad, Z., Kovach, A., Raushenberger, E., et al Bul. 14/15.4.80.7.1.76.as310555(2pp).

ATOM= ★ D15 85997 C/48 ★SU-728-884
Slotted cap for water-preparation filter - has filter cartridge, slotted support ring and continuous tube with ribs on its surface at distance from false bottom
ATOMIC ENERG MACH 16.10.78-SU-674336
(25.04.80) B01d-23/18
Slotted cap for water-prepn filter, has filter cartridge, support ring with slits in the lower part, false bottom through which a tube passes to take away the filtrate and the washing medium. Constructional safety and filtrate quality are increased, as a result of removing dead zones by making the tube continuous with the ribs on the supporting surface, positioned some distance from the false bottom.
Aleinikov, G. I., Bukhin, V. E., Postnikov, Yu. A., Bul. 15/25.4.80.16.10.78.as674336(2pp29).

TROI/ ★ D15 86001 C/48 ★SU-728-888
Alluvial filter for clarifying low concentration suspension - has mesh filter on which ferromagnetic powder particles are deposited and held by peripheral magnets
TROITSKII I I 06.05.77-SU-483023
J01 X25 (25.04.80) B01d-35/06
Alluvial filter, for clarifying liquids and low-concentration suspensions, during water-purificn. comprising body and filter element with a mesh, plus a device for forming and holding an alluvial layer and ferromagnetic powder. To be able to operate the filter without a source of electrical energy, the alluvial-layer forming and holding device is made as permanent magnets of cam-shaped profile. They are positioned around the periphery so that they can rotate with the filter element inside.
Troitskii, I. I., Andreev, Yu. B., Teryaev, V. N., Bul. 15/25.4.80.6.5.77.as483023(3pp29).

HALL= ★ D15 86029 C/48 ★SU-728-923
Centrifugal suspensions separator for removing heavier particles - has conical plates, made alternately solid and perforated
HALLURGY RES INST 22.11.76-SU-422862
P41 (25.04.80) B04b-01/08
Centrifugal separator for suspensions, e.g. effluents comprising highly-dispersed solids, has rotor with nozzles for discharging the solid phase, plus a sepg. insert made asa hollow shaft with insert-holder and collection of conical plates. Sepn quality is increased, as a result of redistribution of the force acting on the particles being sepd., by perforating every other plate. The latter can be made from a metal mesh.
Miklashevich, O. S., Cherkez, G. S., Slesarenko, V. F., et al Bul. 15/25.4.80.22.11.76.as422862(2pp29).

IVLI- ★ D15 C/48 ★SW 7903-065
Fish farming tank cleansing process - with division of tank into compartments, slime recuperation, specific water current formation, and use of worms or mussels to consume slime
IVL INST VATTEN OC 06.04.79-SW-003065
P14 (10.11.80) A01k-63 C02c-01/02
The cleaning system is for closed fish breeding tanks or installations, and involves the use of worms or mussels as slime consumers, and also to bind a large part of the system's surplus nitrogen in protein form.

The cleansing process incorporates a division of the fish basin into a number of compartments, multiple point recuperation of slime, and a current formation which provides an extremely delayed time distribution in the various basin divisions.

The slime separation occurs conventionally in a sand filter with feed back of flushing water or a water flow with a slime content to the first aereated basin. 6.4.79 as 003065 (1pp1161)

INNO- D15 05441 C/03 =US 4233-126
Ozone production in chemo-nuclear generator - esp. for waste or water treatment, using radioactive material in oxygen flow tubes
INNOVATIVE CHEM INC (GARC/) 08.06.78-US-913699
*E36 K08 (11.11.80) *WP8000-009 B01j-01/10*
Ozone is produced in a chemonuclear generator with spaced parallel tubes in a coolant container by placing sealed tubes holding gamma-ray emitting material within some generator tubes, at least the internal surface of remaining tubes being material emitting photons with energy greater than 5 eV when exposed to gamma radiation.

Oxygen-contg. gas is flowed through the remaining tubes for direct irradiation and coolant is passed over the generator tubes. The emitter may be cobalt 60, caesium 137, spent fuel elements or reprocessing residue, and the ozone stream is used for treating potable water. 8.6.78 as 913699 (8pp1358)

KING/ ★ D15 86166 C/48 ★US 4233-134
Extracting water from aqueous solution - onto high positive voltage electrode closely spaced above solution
KING A S 19.10.77-US-843670
X25 P41 (11.11.80) B03c-05
Water is extracted by locating the soln. in spaced but close proximity and with open communication to an element carrying a high-voltage positive electrical charge so that the water migrates to the element for collection and subsequent separation.

Pressure at the soln. surface ispref. reduced to increase the rate of extraction and the soln. may also be heated. Water collecting is pref. moved continuously to a remote delivery point. The process closely resembles natural evaporation. The soln. is e.g. flowed slowly through a ceramic basin with electrodes above the soln. and below the basin. The water may collect on the electrode itself or on a moving interposed insulated conveyor. 19.10.77as 843670 (4pp1358)

DANA D15 35501 B/19 =US 4233-143
Polarographic measurement of oxygen in liquids - using membrane cell filled with precise quantity of electrolyte, the membrane always being supported and the support contg. the anode
DANFOSS A/S 27.10.77-DT-748191
*E36 J04 S03 (11.11.80) *DT2748-191 G01n-27/30*
A measured value receiver for polarographic determination of gases in liquids includes a mounting with cathode and anode contacts on an end face abutting a carrier connected to the mounting. The carrier has an annular wall and a central post extending from the base to form an annular recess.

The post has a cathode support face spaced further from the base than the wall top, and an anode projects into the chamber, the anode and cathode contacts being located in the base outer face. A gas-diffusion diaphragm is atta-

ched to the wall top to form a fluid-tight chamber which is filled with electrolyte in an amount such that the diaphragm contacts the support face and is inwardly concave to allow for thermal expansion of electrolyte. 25.10.78 as 954328 (5pp1358)

ATLF ★ D15 86176 C/48 ★US 4233-152
Tert. sewage treatment by contact with ozone - in elongate tank with upper quiescent zone with foam overflow
ATLANTIC RICHFIELD CO 19.03.79-US-021430
(11.11.80) C02b-03/08

Liquors are treated with gas contg. ozone in a contactor which includes a vertical elongate tank. Inflow piping is connected to the bottom of the tank, and outflow piping to an intermediate region. Ozone-contg. gas is introduced at a level between the inflow and outflow piping.

A quiescent zone is maintained in the upper region of the tank with a desired upper level maintained by a vertical standpipe connected to the outflow piping. Foam discharging from the tank is mechanically sheared and impacted. The liquor and gas from the collapsed bubbles are discharged

The appts. may be used for the tert. treatment of a sewage liquor. The method replaces a treatment with chlor-ine which may result in the generation of toxic-by-products 19.3.79 as 021430 (7pp295)

REGC ★ D15 86177 C/48 ★US 4233-153
Brine desalination - by evaporation on warm vertical plate and condensation on parallel cold plate
UNIV OF CALIFORNIA 27.03.78-US-890442 (21.11.77-US-851918)
J01 (11.11.80) B01d-17

A solvent is evaporated while flowing down a warm vertical plate. Adjacent this plate is a parallel cold plate onto which the solvent vapour condenses. The solvent is distributed over the warm plate by a thin fibrous sheet which is draped over the plate to produce a thin film of solvent. Excess solvent is collected in a trough near the bottom of the warm plate. Pref. a similar sheet is draped over the cold plate to absorb condensate and direct it to a prod. trough. The temp. of the warm and cold plates are maintained by the re-circulation of water within each plate.

The appts. desalinates brine or concentrates maple syrup. 27.3.78 as 890442 C.i.p. 4153546 (c.f. 40484B/21) (7pp295)

HAMW- D15 34929 C/20 #US 4233-155
Anaerobic treatment of natural organic waste - in digester fed by variable speed controlled bucket elevator
HAMWORTHY ENG LTD 03.11.78-DT-847746 (22.11.78-US-963095)
*+Q56 (11.11.80) *DT2847-746 B01d-55/14*

Appts. for anaerobic digestion of natural organic waste has a feed tube passing down into a closed container with an inclined outlet tube extending upwardly from the opposite side to a point higher than the feed tube lower end, so that the space in the container above liquid level is sealed from the atmosphere.

As waste is introduced and liquid overflows from the outlet tube, solids which have not settled on the container bottom settle onto the outlet tube inclined wall and remain in the container. A pump passes gases from a top outlet through a diffuser in the container bottom and having a flex-ible membrane with perforations opened only under pump pressure to provide efficient mixing of container contents. 22.11.78 as 963095 (6pp1358)

WACH/ ★ D15 86181 C/48 ★US 4233-158
Liq. treatment tank for demineralising water - has vol. variable beds sepd. by movable partitions contg. conduit system
WACHSMUTH W A 01.11.78-US-956670
I01 (11.11.80) B01d 23 10

Liq. treatment appts. comprises a vertical tank having longitudinally arrayed vol. variable beds of liq. treatment material arranged one above the other. The beds are sepd. by a liq. permeable partition which moves longitudinally in response to expansion and contraction of the beds.

Each partition has a conduit system, connected to a main conduit passing between the inside and outside of tank, for collecting and distributing liq. at the partitio seal around the periphery of each partition engages the inside wall of the tank to prevent passage of liq. treatm material between the partition and the inside wall while allowing movement of the partition within the tank.

Used for demineralisation of water using beds of ion exchange resins. The bed partitions are longitudinally movable to compensate for vol. variations in the beds a the conduit systems for collecting and distributing liq. between the beds are also movable to remain at the inte faces of the beds. 1.11.78 as 956670 (15pp67)

TORA D15 44345 B/24 =US 4233-
Device for separating solids from liquids - comprising a slop apertured screen with liquid flow enhancing guides beneath it
TORAY IND INC 28.11.77-JA-141688
*J01 (11.11.80) *EP---2-237 +B01d-23/24*

A solids-liquid separator for use in wastewater treatme includes a screen with guides mounted on the back surfa for accelerating liquid throughflow. Thickness of throug flow liquid conveyed along the screen back S_2 obeys the equation $S_2/\sin\theta < W_2\cos\theta$, where W_2 is the distance be tween the tops of the screen back surface and θ is the ang between a horizontal plane and the screen.

A cleaning brush contacts the back of the screen and reciprocates over more than screen width. The brush pref. rotates and has polyester bristles not more than 4 mm long or 0.2 mm in diameter. The screen openings a pref. slits not more than 0.5 mm wide. 21.11.78 as 962641 (12pp1358)

OLIN ★ D15 86223 C/48 ★US 4233-2
Liq. polymer hydration appts. - comprising two packed mixi columns with inlet and outlet reducing coupling
OLIN CORP 25.07.79-US-060558 (16.11.78-US-961310)
A14 (A88) (11.11.80) B01f-05 B01f-15/02

Liq. polymer hydration appts., e.g. for polyacrylamide, includes two packed mixing columns made of oxidn.-resi-ant plastics and each with an inlet and an outlet reducing coupling such that the coupling surfaces form an angle of $\geq 110°$ with the column walls, and a reducing passage way connecting first column outlet to second column inlet with ratio of column to passageway cross-sectional area being 4:1 - 20:1.

Water and liq. polymer sources are connected via metering units and check valves to the first column inlet, and a second water source is connected to the second col-umn outlet. All parts are pref. of PVC and the packing is of saddles. The parent patent claims the method. 25.7.79 as 060558 Div.ex 4201867 (5pp1358)

NAAR D15 31944 B/17 =US 4233-40
Treatment of waste water from wheat starch prodn. plant - b heating water and by using enzymes
NAARDEN INT NV (ALTE-) 12.10.77-NL-011211
*C03 (D13 D17) (11.11.80) *EP---1-470 +C13l-01*

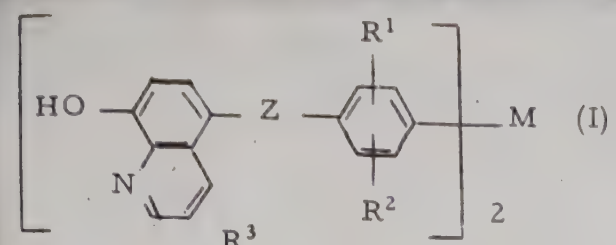
Purificn. of waste water of a plant for the prodn. of whea starch comprises (a) heat treating the waste water and sepg. the solids; and (b) treating the water ≥ 1 of the en-zymes α-amylase, cellulase and hemicellulase, and opt. with ≥ 1 of the enzymes glucoamylase and α-glucanase. Pref. the water is also concentrated.

As much as possible of the impurities is removed from the waste water before it is drained to a purificn. plant. 13.10.78 as 951077 (5pp982)

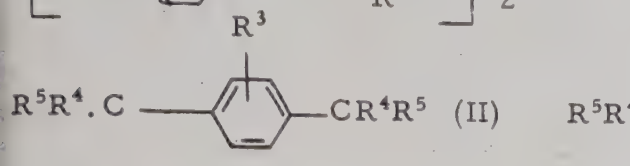
FARB D15 58976 W/36 =US 4233-43
Polycondensates as metal-absorbents, coatings, stabilisers and cat - contg. hydroxy-quinoline end - gps. and metal contg. polymers
BAYER AG 15.02.74-DT-407309 (15.02.74-DT-407308)
*A23 J01 (A91) (11.11.80) *DT2407-309 C08l-63/62*

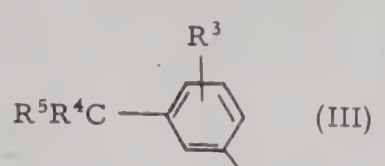
Polycondensates of formula (I) are new. In (I), R^{1-2} are H, 1-4C alkyl, phenyl or halogen; Z is $-CH_2-$, $-CH(CH_3)-$, 3-5C isoalkylidene, 5-15C cycloalkyl(id)ene or gp. of form-ula (II) or (III) (where R^{3-5} are 1-5C alkyl).

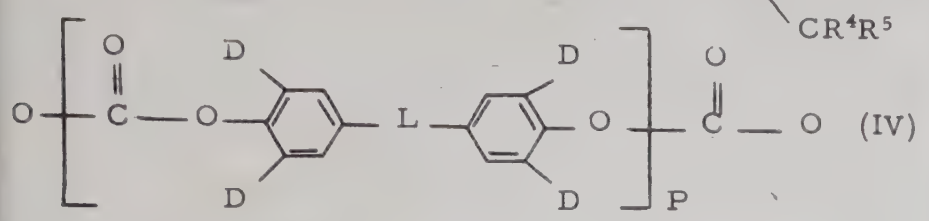
M is a polycarbonate segment of formula (IV) (where D



is Cl, Br, H or 1-4C alkyl; L is single bond, 1-5C alkylene, 2-5C alkylidene, 5-15 C cycloalkyl(id)-







ene or (II: R^3 is H; and p is an integer of 2-50).

(I) are used in the prepn. of metal contg. polymers hav -ing improved resistance to heat and chemicals. 6.1.77 as 757133 (+12.2.75 -US-549282)(14pp982)

D16: FERMENTATION INDUSTRY

SCEN- ★ D16 C/48 ★BR 7902-520
Continuous process for alcoholic fermentation of sugar
SCIENTIA ENGENHARIA 24.04.79-BR-002520
(04.11.80) C12p-07/14

HORI/ ★ D16 C/48 ★BR 7902-680
Fermented foodstuff for ruminants and its prodn.
HORIUCHI I 02.05.79-BR-002680
C03 (04.11.80) A23k-01/12

SOCH ★ D16 84365 C/48 ★BE-883-322
D-alpha-aminoacid prepn. by enzymatic hydrolysis of hydantoin - using enzyme obtd. from Pseudomonas sp hm-40
SOC CHIM ORG BIOL AEC 15.05.79-FR-012285
B05 E19 (14.11.80) C12n C12p

Process for the prepn. of D-α-amino-acids by hydrolysis of a 5-substd. hydantoin using an enzyme obtd. by the culture of Pseudomonas sp HM-40 (CBS 259.79).

Prepn. of D-α-amino acids. The process is particularly useful for the prepn. of D-phenylalanine, D-methionine, D-phenylglycine and D-phydroxy-phenylglycine useful as medicaments and pharmaceutical and agricultural chemical intermediates. Numerous other D-aminoacids such as D-leucine, D-valine and D-tryptophan may also be obtd. by the process. 14.5.80. as 883322. (17pp395).

BORR/ ★ D16 84425 C/48 ★DL-144-173
Fermentative enzyme prepn. in aerated submerged culture - by inoculating several microorganism species consecutively at long intervals used to prepare trans glucosidase activity free amylase
BORRIS R 05.06.79-DL-213397
(D17) (01.10.80) C12n-09/28

Several microorganism species are inoculated consecutively into the nutrient medium, at long time intervals and cultivated together. The culture filtrate obtd. after fermentation contains the enzymes generated by the different species.

In an example, a trans-glucosidase-free amylase compsn. having α-amylase and glucoamylase activity was prepd. by inoculating a culture medium with Endomycopsis bispora strain and, after 18-66 hrs., with Aspergillus oryzae F15 (deposited as A. oryzae i 911 in the fungus culture collection of the Friedrich Schiller Univ. Weimar), at the moment when E. bispora has grown in medium. Fermentation takes 45-160 hrs. at 20-40 (25-35)°C.

Process is used to make amylase mixt. having α-amylase and glucoamylase activity, in a conc. ratio useful for starch hydrolysis to grape sugar. 5.6.79 as 213397(10pp)

IMMU- ★ D16 84467 C/48 ★DL-144-356
Lectin isolation from plant seed extracts - by affinity chromatography on carrier-bound immunoglobulin
STAAT INST IMMUNPRA 22.06.79-DL-213839
B04 (15.10.80) A23i-01/14 C07a-07

Prodn. of lectins (I) is carried out by subjecting extracts of plant seeds to affinity chromatography on a column of carrier-bound immunoglobulin (pref. IgG). Proteins are removed by washing the column with physiological saline soln., and (I) are then eluted with an acid buffer. The (I) contg. fractions are pooled, dialysed and opt. freeze-dried.

The process can be used to isolate lectins with various types of carbohydrate specificity (e.g. for D-glucose, D-galactose, L-fucose, N-acetyl-D-galactosamine or N-acetyl-D-glucosamine), e.g. for biochemical or immunological use. 22.6.79 as 213839 (5pp367)

HAHN/ ★ D16 84468 C/48 ★DL-144-359
Vaccine against tumours caused by retro-viruses - prepd. from pathogenic, persistent retro-virus found in duck embryos useful for prevention, treatment or diagnosis
HAHNEFELD H 26.07.79-DL-214631
B04 C03 (15.10.80) A61k-35/76

Immunological prepn. agains human or animal tumours caused by retroviruses is made by isolating, concentrating and purifying a persistent retrovirus which is present in the cells of normal duck embryos (and derived cell cultures). The virus is then inactivated for use as vaccine by parenteral administration, opt. after adding adjuvants. Also persistent retroviruses derived from normal tissues or fresh cell cultures of other vertebrates can be used.

These prepns. are useful for preventing, treating or diagnosing tumours caused by retroviruses, esp. papilloma. The duck-embryo virus is apathogenic, non-oncogenic and more easily isolated and cultured than viruses obtd. from tumours. 26.7.79 as 214631 (7pp1251)

TAKE D16 19648 T/12 =DS 2145-084
Citric acid sepn - from mixtures with isocitric acid, by addn of sulphuric acid
TAKEDA CHEMICAL IND KK 11.09.70-JA-080246
*E17 (20.11.80) *BE-772-474 C07c-59/26*

Citric acid is sepd. from its aq. soln. with L(+)-isocitric acid produced by microbiological conversion, by cultivation of Candida species. To the initial soln. is added 40-50% sulphuric acid, based on the wt. of L(+)-isocitric acid present and the citric acid is recovered by fractional crystallisation. The iso acid hinders the decomposition of the citric acid by the sulphuric acid and the sulphuric acid improves the yield of citric acid. 9.9.71 as 145084. (8pp)

HENK D16 24509 W/15 =DS 2348-807
Potassium acid tartrate removal - from wine by reverse osmosis and filtering of tartrate crystals from concentrate
HENKEL KG AUF AKTIEN 28.09.73-DT-348807
*(20.11.80) *DT2348-807 +C12h-01/06*

Tartar is sepd. from wine or sparkling wine by reverse osmosis to separate the wine into a permeate and a concentrate from which the tartar is removed by spontaneous

crystallisation. The permeate and concentrate are then recombined. Before the treatment pure tartaric acid or its salt may be added to the wine in an amt. to compensate for the loss by reverse osmosis. Tartar no longer crystallises out from the wine once it is bottled. 28.9.73 as 348807. (3pp068)

KALI ★ D16 84516 C/48 ★DS 2923-279
Pancreatin pellets prodn. - by compression of a mixt. of pancreatin powder and a solvent in a string press (PT 30.10.80)
KALI-CHEMIE AG 08.06.79-DT-923279
B04 + P33 (20.11.80) A61j-03/06 A61k-37/54 B29d C12n-09/94

In a new process for the prodn. of pancreatin pellets, a formable mass contg. a pancreatin powder and a solvent which is innocuous to enzymes is extruded in a string press, with cooling if necessary, and the extrudate is cut into string sections, dried, and further processed by conventional methods.

The solvent is pref. isopropanol or acetone, pref. used with ⩽ 50% (pref. 15-35vol.%) of a liq. chloro-fluoro-hydrocarbon. The solvent is pref. used in an amt. of 70-200ml. per 1000g. pancreatin powder. Once extruded, the string is pref. cut into lengths approx. equal to the dia. of the string. The resulting pellets may be provided with ⩾1 coating (at least one of which is resistant to gastric juice) or rounded off by conventional methods (pref. by granulation in the presence of additional pancreatin powder). The pellets may be used as such or, e.g., filled into capsules.

Economical process giving pellets with good mechanical properties having a high pancreatin content. 8.6.79 as 923279. (3pp280)

BRUN/ ★ D16 84578 C/48 ★DT 2918-834
Biological cell fractionation - based on modular system of disrupter and fractionating centrifuges
BRUNNER G 10.05.79-DT-918834
S05 (20.11.80) C12m-03 C12n-05

The fractionation of biological cells by means of a cell disruptor is based on a continuous break-up of cells and a continuous passage of the fractionated material through one or several series-connected rotors (e.g. counterflow centrifuges with elutriator/rotor). Each cell fractionator is pref. assembled from modules of a fractionating centrifuge; representative modules would be the transformer, electronic control, vacuum, diffusion pump, cooling, rotor chamber drive, reservoir/pump and detector.

This facilitates the completion of a fractionator and makes it usable more universally. The modular system reduces the path to be travelled by the biological material. 10.5.79 as 918834(18pp39)

LUPO- ★ D16 84612 C/48 ★DT 2919-232
Water soluble hop bitters prepn. - by heating hops with basic cpds. of monovalent metals to form metal (iso)humulate(s)
LUPOFRESH ALLFELD & 12.05.79-DT-919232
(20.11.80) C12c-03

Non-dissolved hop bitter prepns. which are non-liquid at room temp. are made by mixing the hop bitters with hydroxides or basic salts of monovalent metals in a greater than or equal stoichiometric amt. w.r.t. the humulones present. The mixing is carried out with heating and in the presence of only small amts. of water such that metal (iso)humulates are formed immediately and a water soluble bitters prepn. is obtd. Pref. the amt. of water added is ⩽ 50 wt.%, esp. ⩽ 20 wt.% w.r.t. the bitters prepn. The monovalent metal is pref. Na or K and the mixt. is heated e.g. to 85-110°C, esp. 98-105°C. Emulsifying water-soluble cpds. such as glucose, hop hot water extracts or other emulsifying agents may be present during or after the heat treatment stage, e.g. to give a coherent paste or emulsion.

Process gives humulones which are easily sepd. from the hop resins. 12.5.79 as 919232(30pp513)

UTIK/ ★ D16 84636 C/48 ★DT 2919-518
Ethanol prodn from sugar cane - by steaming cane chips prior to fermentation with yeast
UTIKAL H 15.05.79-DT-919518
E17 (20.11.80) C12p-07/06

Ethanol is made from sugar cane by first cutting the cane into chips and treating these with steam at 0.5-5.0 atmos. esp. 2.0 atmos., for 5-45 mins., esp. 15 mins. The material is then cooled to ≈ 30°C and subjected directly to ethanol fermentation by addn. of a suitable yeast. Fermentation is continued for 18-48 hours, pref. 24 hours.

The steam treatment opens the sugar-contg. cells and allows the material to be fermented directly. Continuous processing is possible. The ethanol is recovered by distn. and is useful as substitute for mineral oil as a fuel. 15.5.79 as 919518(11pp513)

HENK ★ D16 84640 C/48 ★DT 2919-622
Prodn. of stabilised water-soluble enzyme derivs. - by reaction with polysaccharide aldehyde and redn. of product
HENKEL KG AUF AKTIEN 16.05.79-DT-919622
(20.11.80) C11d-03/38 C12n-09/96

Prodn. of enzyme derivs. (I) is carried out by (a) reacting a NH_2-contg. enzyme with a CHO-contg. polysaccharide deriv. (II) to form a water-insoluble enzyme deriv., and (b) reducing the prod. to form a water-soluble deriv. in which ⩾ 2 of the available CHO gps. in (II) are linked to ⩾ 2 of the available NH_2 gps. in the enzyme.

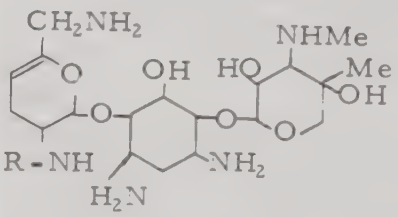
(I) are 100% soluble in water and have better stability than the starting enzymes in aq. media. They retain their activity for longer periods, have better thermal stability, even in alkaline media, and have better solubility and stability in surfactant-contg. aq. systems (e.g. liq. detergent compsns.). 16.5.79 as 919622(22pp367)

TOXN ★ D16 84718 C/48 ★DT 3013-210
Amino-glycoside antibiotics from dactylosporangium strain - with broad-spectrum antibacterial activity
TOYO JOZO KK 04.04.79-JA-041274
*B03 (20.11.80) A61k-31/71 A61k-37/02 C07h-15/22 C12p-19/48 C12r-01 **

New aminoglycoside antibiotics G-367-1 (I) and G-367-2 (II) are obtained by culturing Dactylosporangium thailandense G-367 (FERM-P 4840).

(I) and (II) are broad-spectrum antibacterial agents with MIC values of 0.8-12.5 µg/ml against S. aureus, S. epidermidis, Strept. pyogenes, B. subtilis, E. coli, K. pneumoniae, Salm. enteritidis and Proteus spp., but ⩾ 25 µg/ml against Serratia and Pseudomonas spp.

(I) and (II) are characterised by their physicochemical properties. (I) are thought to be of formula:



(where R is CHO in (I) and H in (II)), and (II) is thought to be a stereoisomer of sisomicin. 3.4.80 as 013210(20pp)

BRIS/ ★ D16 84846 C/48 ★FR 2448-351
Compsns. contg. hyaluronidase, pectinase and bacitracine - cause bacterial detachment and render them more susceptible to antiseptics etc.
BRISOU J 09.02.79-FR-003920
B04 (10.10.80) A61k-37/48

Compsns. contg. selected polysaccharases from bovine testicular hyaluronidase (I), Aspergillus niger purified pectinase (II), and bacitracine (III) are new.

The compsns. cause detachment from their tissue support of bacteria fixed through polysaccharide fibres, and thus render them open to attack by curative agents, antiseptics, antibiotics and the like. The compsns. are esp. useful in mouth washes and sublingual tablets. 6.2.79 as 003920 (5pp520).

AART/ ★ D16 84893 C/48 ★FR 2448-903
ast acting antimicrobial compsns. - contg. antimicrobial, enzyme, ntiinflammatory, and opt. local anaesthetic, keratolytic, mucolytic nd emulsifier

MARTIN H A 19.02.79-FR-004162

B04 (17.10.80) A61k-31/18 A61k-37/02 A61k-45/06

Medicaments contg. (a) an antimicrobial agent, (b) an enzyme, (c) an antiinflammatory, (d) opt. a local anaesthetic e) opt. a keratolylic agent, (f) opt. a mucolytic agent, and g) opt. an emulsifying agent, are new.

Antimicrobials for use in dermatology, oto-rhinolaryngology and pneumology, are rapid acting.

(a) is typically an aminoglycoside, a penicillin, a cephalosporin, etc. The enzyme (b) is pref. hyalouronidase, streptokinase, streptodonase, etc. (c) may be a natural or synthetic corticoid. Suitable local anaesthetics (d) include procains while the keratolytic agent(e) may be tretinonine, salicylic acid or resorcinol benzoic acid. The mucolytic agent(f) is generally cysteine, and the emulsifying agent(g) may be polysorbate, sorbitan or sodium lauryl sulphate. 19.2.79 as 004162 (8pp520).

PRUN/ ★ D16 84910 C/48 ★FR 2449-054
Wine making vessel with discharge screw conveyor in base channel - has horizontal grill to maintain and then break up marc cake

PRUNET A 19.02.79-FR-004336 (16.08.78-FR-023948)

Q35 (17.10.80) B65g-65/40 C12g-01/02 C12l-11

The parent patent showed a wine making vessel of rectangular, horizontal cross-section. The base of the vessel has a longitudinal open topped channel contg. a conveyor screw to discharge marc etc.,hinged to ≥1 of the top edges of the channel is a pivoting wall which can be moved by vertical reciprocation of a rod or system of rods.

A horizontal, openwork grill is now fixed to the rod or rods at the level of the cake of marc in the vessel. The stationary grill helps to maintain marc cake formation while up and down movement of the grill breaks up the marc.

The grill is pref. made up of longitudinal and cross members which cover the horizontal cross-section of the vessel.

The grill helps to keep the cake of marc intact while juice drains separately away. Reciprocation of the grill can then be used to break up the marc cake into small pieces which are easily discharged by the screw conveyor. 19.2.79 as 04336 16.8.78 - 023948 (10pp448).

BREW D16 15858 A/08 =GB 1580-191
Degassing liquids - by bringing supersaturated liquid into contact with solid surface having renewable nucleation sites

BREWING PATENTS LTD 12.03.76-GB-010115

*A97 J01 (26.11.80) *ZA7701-365 +C12c-11*

The degree of supersaturation of CO_2 in a fermentation liq. is reduced by bringing the supersaturated liq. into contact with ≥1 solid surface having a multitude of renewable nucleation sites.

The surface comprises a substrate coated with a sprayed coating of halogenated ethylene polymer, foamed polystyrene, acetone etched solid polystyrene, metal sheet sprayed with red oxide primer paint or Al paint, porous PVC sheet or Kieselguhr, graphite powder or PVC cenospheres applied to a supporting matrix.

The method is used for fermenting worts and beers and is safe, simple and inexpensive. 14.3.77 (8pp977)

UKSO- ★ D16 84950 C/48 ★GB 1580-255
Human platelet counting standard - consisting of a suspension of non viable spores of genus absidia

UK SEC SOCIAL SERV 04.03.77-GB-009310

B04 (26.11.80) G01n-33/96

Spores have mean dia. 1.5-6 μm. Suitable fungi include A. corymbifera FRS 467 (IMI 201012) which have spore dia. mostly 2.5-3.5 μm, esp. ca 3 μm.

The fungus is tupically grown on agar; the spores are pref. fixed with HCHO and autoclaved at 15 psi for 15 min. The suspension is pref. purified by passage through a drip set and microaggregate filter. The final suspension medium is pref. aq. acid free balanced electrolyte soln., suitably diluted, usually contg. 1 or more antibiotics (e.g. 600 mg/l Na penicillin G, and 1 g/l heptomycin base as sulphate).

Prepd. spore suspensions are relatively stable, have a mean cell vol. very similar to that of human platelet and have a distribution by cell size which is comparable to that of normal (I). platelets. 4.3.77 (4pp478)

CECC/ ★ D16 C/48 ★IT 1047-452
Must collection and conveying system

CECCATO O 05.02.73-IT-041518

(10.09.80) C12g

ISTS ★ D16 C/48 ★IT 1047-492
Reagent for enzymatic determn. of glucose

IST SIEROTER VACC SCLAVO 21.08.75-IT-009524

B04 (10.09.80) C12p

MITN ★ D16 85033 C/48 ★J5 5131-385
Coenzyme/Q-10 prodn. - by culturing microorganism of genus protaminobacter methanolic in medium contg. carbon source

MITSUBISHI GAS CHEM IND 29.03.79-JA-037262

*B05 (13.10.80) C12n-01/20 C12p-07/66 C12r-01/**

Prepn. of coenzyme Q_{10} comprises cultivating microorganism belonging to novel Protaminobacter methanolica and capable of producing coenzyme Q_{10} (e.g. Protaminobacter methanolica BP-3 (FERM-P No. 4893), BP-11 (FERM-P No. 4894), BP-22 (FERM-P No. 4895), BP-41 (FERM-P No. 4896) and V-26 (FERM-P No. 4897) in medium contg. C sources assimilated by the microorganism, sepg. the mycelium from the culture and recovering coenzyme Q_{10} from the mycelium.

Protaminobacter methanolica can assimilate not only naturally occurring carbon sources such as molasses or sulphite pulp waste liquor, but also synthetic organic cpds. such as methanol or glycerin. Therefore coenzyme Q_{10} can be economically and stably produced on industrial scale. 29.3.79 as 037262 (10pp140).

TORA ★ D16 85034 C/48 ★J5 5131-386
Bacteria cultivation using water contg. PMMA membrane - by adhering bacteria to isotactic and syndiotactic portions of membrane and passing medium over other surface

TORAY IND INC 02.04.79-JA-038417

A97 (A14) (13.10.80) C12n-05

On one side of a hollow fibre membrane made of semi-transparent water-contg. methacrylic acid methyl ester polymer compsn. which contains isotactic portion and syndiotactic portion is adhered bacteria, and on the other side of the membrane is flown a cultivation medium or oxygen-contg. gas, whereby cultivation of the bacteria can be conducted.

Cultivation of any bacteria at high density growth can be attained. A ratio of the isotactic portion to the syndiotactic portion is 1:10-10:1 by weight. Water content of the polymer compsn. is 10 to 80 % by weight. 2.4.79 as 038417 (3pp22).

AMAN ★ D16 85035 C/48 ★J5 5131-389
Deoxyribonuclease I purificn. - by contacting liq. contg. mammalian pancreas extract with DNA fixed on agarose at pH 4-5 and eluting by raising ionic strength

AMANO SEIYAKU KK 02.04.79-JA-038438

B04 (13.10.80) C12n-09/22

Purificn. of deoxyribonuclease I comprises contacting a liq. contg. an extract of mammalian pancreas with deoxyribonucleic acid (DNA) fixed on agarose under acidic conditions, pref. at pH 4-5, to adsorb deoxyribonuclease I and then eluting by raising the ionic strength. Pref. adsorption is conducted in the presence of a citric acid buffer soln..

According to conventional affinity chromatography, adsorption and elution are conducted at pH 7.5 at which DNA substrate is decomposed making it difficult to reuse the DNA-Sepharose. In the method, adsorbability is much higher at pH 4-5 than at pH 7.5; elution does not occur at ionic strength of ≤ 0.3; and DNA is not decomposed, so DNA-Sepharose can be repeatedly used. 2.4.79 as 038438 (5pp140).

FUKU/ ★ D16 85036 C/48 ★J5 5131-391
Heat resistant cellulase prodn. - by culturing microorganism of genus Talaromyces
FUKUI S 31.03.79-JA-039232
(13.10.80) C12n-09/42
Microorganism of genus Talaromyces which produces heat resistance to cellulase is cultivated and cellulase recovered from the culture medium. Microorganisms are e.g. Talaromyces sp F-29, sp F-54 and Talaromyces emersonii F-50 (FERM Nos. 4904, 4906 and 4905, respectively.).

Culture medium contains C source e.g. fibrous material, starch, etc., N source e.g. ammonium sulphate, ammonium nitrate, etc., and other conventional additives such as inorganic materials. Liq. or solid culture medium is used. Cultivation is conducted at 40 - 55°C at pH 3 - 9 for 2 - 5 days under aerobic conditions. Cellulase obtd. has high enzymatic activity and high heat resistance. 31.3.79 as 039232 (7pp22).

AGEN ★ D16 85037 C/48 ★J5 5131-392
Fixed enzyme membrane prodn. - by treating porous Teflon membrane with aq. surfactant and impregnating with aq. soln. contg. enzyme and gelling agent
AGENCY OF IND SCI TECH 29.03.79-JA-037440
A96 B04 (13.10.80) C12n-11/08
Porous Teflon membrane is treated aq. surfactant solution, and the treated membrane is impregnated with aq. soln. contg. enzyme and gelling agent. There is obtained fixed enzyme membrane where the pores of the PTFE are packed with gel substance contg. the enzyme. It is possible to obtain very thin membrane contg. fixed enzyme which has high mechanical strength. Concn. of the agent in the soln. is 0.1 to 5 wt.%. The pore size of the Teflon membrane is 0.1 to 20 μm. The enzyme may be any type such as urease. The gelling agent includes PVA, inactive protein, etc.. 29.3.79 as 037440 (4pp22).

OJIP ★ D16 85038 C/48 ★J5 5131-396
Prodn. of non-odorous di:methyl sulphoxide and di:methyl sulphone - by contacting methyl mercaptan, di:methyl sulphide or di:methyl di:sulphide with mould, e.g., Aspergillus
OJI PAPER K.K 31.03.79-JA-037753
E17 J01 (13.10.80) C12p-11
Methyl mercaptan, dimethyl sulphide or dimethyl disulphide is contacted with mould, producing dimethyl sulphoxide and/or dimethyl sulphone. The mould used belongs to the genus cephalosporium, Penicillium, Aspergillus, Mucor or Trichoderma. Typical examples of the moulds are Cephalosporium C-1 (FERM 3976), Penicillium P-1 (FERM 3978), Aspergillus B-3-14-6(FERM 3980), Mucor A-7-82-2 (FERM 3981) and Trichoderma B-3-5-1 (FERM 3982), etc..

The method converts methyl mercaptan, dimethyl sulphide and dimethyl disulphide, which cause bad odour into non-odorous substances dimethyl sulphoxide and dimethyl sulphone without heat generation. The method can be applied to treatment of industrial waste materials contg. odorous substances. 31.3.79 as 037753 (6pp22).

SANY ★ D16 85039 C/48 ★J5 5131-398
Antibiotic B-41 prodn. for control of aphids - by culturing Streptomyces strain
SANKYO KK 00.00.80-JA-042413 (29.05.73-JA-060127)
C03 (13.10.80) A01n-63/04 C07d-493/22 C12p-17/18 C12r-01/46
Prepn. of anitbiotic A_1 of B-41, A_2 of B-41, A_3 of B-41, A_4 of B-41, B_1 of B-41, B_2 of B-41, B_3 of B-41, C_1 of B-41 and C_2 of B-41, comprises culturing B-41 producing strain belonging to the genus of Streptomyces, and recovering the antibiotics from the culture.

Antibiotics are new, and show a stronger miticidal effect than known organic synthesis cpds. having miticidal effect. They are effective in the control of agriculturally harmful insects such as aphids. 29.5.73 as 42413/80 Div.ex. 60127/73 (18pp108).

NODA D16 33128 X/18 =J8 0042-619
Enzymatic agent for brewing soy sauce - obtd by extracting enzymes from solid culture of yellow green Koji mould
NODA INST SCI RES 11.09.74-JA-104307
*(D13) (31.10.80) *J51032-795 A23I-01/23*
Liq. cultured material of yellow green Koji mould or its filtrate and solid culture of yellow green Koji mould are mixed, then enzyme in the solid culture is extracted. The resulting extract is pulverised. Almost all species, variants and varieties of yellow green Koji mould can be used but Aspergillus oryzae, Aspergillus sojae are prefd. The enzymatic agent obtd. has similar compsn. to that of the enzymes usually used. It is used in amts. of 1-5% and gives soy sauce of quality comparable to that where the parent enzymes are used, in a simple and economical manner. 11.9.74 as 104307. A23I 1/238 (31.10.80) NODA INST. SCI. RES. (7pp)(J51032795)

DENK D16 74422 Y/42 =J8 0042-628
Enzyme immobilisation - by coagulating with quat. pyridine anion-exchange resin and extruding to give immobilised enzyme pellets (NL 4.10.77)
TDK ELECTRONICS KK 31.03.76-JA-035468
*A97 B04 (A91) (31.10.80) *DT2714-629 +C12n-11/08*
In a new procedure for prodn. of immobilised enzyme mixts., an enzyme and/or enzyme-contg. microorganism cells are coagulated and immobilised by reacting with a high-molecular anion-exchanger contg. a quat. pyridine ring in the molecule, and the reaction prod. is extruded to give moulded particles.

The immobilised enzymes are suitable for industrial use: they can e.g. be packed into columns and used for the long-term performance of a continuous enzyme reaction. The enzyme content of the immobilised prod. is high, so that high reaction rates can be maintained. Since the moulded particles can be formed in various ways, the particles have good physical stability, and penetration of the particles by reaction mixt. is good. 31.3.76 as 035468. C12n 11/28 (31.10.80) TDK ELECTRONICS KK (6pp)(J52120188)

KYOW D16 76454 Y/43 =J8 0042-629
High activity fixed enzyme prepn. - by immobilisation of enzyme by carrier contg. organic polymer and silanes
KYOWA HAKKO KOGYO 19.03.74-JA-030603
*A97 B04 (A11) (31.10.80) *J50125-084 +C12n-11/12*
The enzyme-immobilising efficiency of the organic polymer-silane carrier is much greater than that of inorganic carriers. Enzymes, such as amylases, lysozymes, invertases, transaminases, aspartase, glucose, isomerase, acetyl CoA synthetase, are effectively immobilised by the organic carrier.

In an example, 5 g. CM-cellulose was suspended in 50 ml. of a 20% γ-aminopropyltriethoxysilane soln. at 75° for 8 hrs. The mixt. was further heated at 90° for 5 hrs. and resuspended in 30 ml. of a 2.0% glutaraldehyde soln. for 1 hr. under reduced pressure. After removal of glutaraldehyde, the cellulose-silane carrier was made up in 50 ml. of 0.01M acetate buffer (pH 6.0) and reacted with 50 mg. α-amylase (I) at room temp. overnight. The resulting immobilised-(I) prepn. contained 45% of the initial (I) activity, the (I)-binding capacity of the cellulose-silane carrier was 11.6 mg./g. 19.3.74 as 030603. C12n 11/12 (31.10.80) KYOWA HAKKO KOGYO (7pp)(J50125084)

KYOW D16 46805 W/28 =J8 0042-630
Fermentative L-threonine prodn - from Protaminobacter or Methanomonas
KYOWA HAKKO KOGYO KK 18.07.73-JA-080275
*B05 E16 (31.10.80) *J50025-790 +C12p-13/08 C12r-01/**
L-Threonine (I) is produced from Protaminobacter candidus or Methanomonas methylovora.

In an example, P. candidus ATCC 21372 was cultured on a medium (pH 7.2) contg. MeOH 20 ml., $(NH_4)_2SO_4$ 10, urea 1, KH_2PO_4 2, K_2HPO_4 7, $MgSO_4 \cdot 7H_2O$ 0.5, and $CaCO_3$ 20 g., plus $FeSO_4 \cdot 7H_2O$ 10, $MnSO_4 \cdot 4\text{-}5H_2O$ 8, thiamine HCl 1, phenol red 10 mg., and biotin 10 μg. in 1 l. at 30° for 67 hrs. MeOH was added at 1% after 16 hrs.,

and each 2% after 24 and 40 hrs. of the cultivation and the pH was adjusted with 2N NH_4OH. Prod. of (I) was 50 mg./l. To 3 l. culture broth, 60 g. $CaCl_2 \cdot 2HO_2$ was added with stirring. The resulting ppte., $CaCO_3$, and cells were removed by centrifugation. The supernatant was concd. under reduced pressure and the resulting ppte. was removed giving 55 ml. supernatant. (I) in the supernatant was adsorbed on Diaion SK-1 (H^+) at pH 2, eluted with 0.25N NH_4OH, and crystd. with addn. of EtOH yielding 65 mg. crystals. 18.7.73 as 080275. C12p 13/08; C12r 1/01 (31.10.80) KYOWA FERMENTATION KK (3pp)(J50025790)

KYOW D16 46807 W/28 =J8 0042-631

L-Tyrosine and L-phenylalanine prodn - by Methanomonas or Protaminobacter culture using methanol contg nutrient medium

KYOWA HAKKO KOGYO KK 16.07.73-JA-079337

*B05 E14 (31.10.80) *J50025-792 +C12p-13/22 C12r-01/**

L-Tyrosine (I) and/(or L-phenylalanine (II) were produced by Methanomonas or Protaminobacter using methyl alcohol, contg. medium.

In an example, M. methylovora (FERM-P 2159), resistant to p-fluorophenylalanine was derived from strain ATCC 21369 and was cultured on a medium contg. MeOH 20 ml. $(NH_4)_2SO_4$ 5, urea 2.3, KH_2PO_4 2, K_2HPO_4 7, $MgSO_4 \cdot 7H_2O$ 0.5, peptone 1, yeast extract 1, and $CaCO_3$ 20 g., plus $FeSO_4 \cdot 7H_2O$ 10, $MnSO_4 \cdot 4H_2O$ 8, thiamine HCl 1, phenol red 10 mg., and biotin 10μg. in 1 l. at 30° for 72 hrs. MeOH was added to the broth at 1% after 18 hrs. and at each 2% after 26 and 40 hrs. of the cultivation and the pH was maintained to neutral. Prodn. of (I) and (II) were 0.5 and 2.1 mg./ml., resp. The culture broth was centrifuged at pH 10 and the supernatant was concd. to 100 ml. (I) was pptd. from the conc. standing at pH 7.0 in cold. Yield was 650 mg. crystals from 2 l. culture broth. Another 2 l. culture broth was centrifuged and (II) in the supernatant was adsorbed on an active C, eluted with 20; HOAc contg. 5% PhOH, and purified by Diaion-SK-1A (H^+) eluting with 0.3% NHOH; yield was 1.25 g. 16.7.73 as 079337. C12p 13/22; C12r 1/01 (31.10.80) KYOWA FERMENTATION KK (3pp)(J50025792)

MITN D16 49100 X/26 =J8 0042-632

Polysaccharides prepn using novel strain - Methanomonas genus cultured in methanol medium

MITSUBISHI GAS CHEM IND 07.11.74-JA-128342

*A11 B04 C03 (31.10.80) *J51054-987 +C12p-19/04 C12r-01/**

A microbe is cultured belonging to Methanomonas genus utilising methanol (Methanomonas polysaccharogenus 20A) in a medium mainly consisting of methanol as the carbon source followed by isolating polysaccharides from the resultant culture. The novel strain utilises methanol and does not utilise other carbon sources and differs from Methanomonas methanica, Pseudomonas methanica, Methanomonas methanooxidans and Methylomonas methanica. It also differs from Methanomonas methylovora which does not produce polysaccharides.

Polysaccharides produced by microbes have been used as cosmetics, paper manufactures, textiles and building materials as well as food and feed, and come to be used as blood coagulation inhibitory and antineoplasmic agents. 7.11.74 as 128342. C12p 19/04; C12r 1/01 (31.10.80) MITSUBISHI GAS CHEM. IND. (12pp)(J51054987)

NISI D16 17271 Y/10 =J8 0042-634

Microbial prodn. of xanthane gum - by culturing Xanthomonas campestris in sugar contg. waste liq. from soy bean protein prodn.

NISSHIN STEEL KK 15.07.75-JA-085857

*(D13) (31.10.80) *J52010-492 +C12p-19/06 C12r-01/64*

Xanthane gum has various industrial uses, and can also be applied to foods as substitute for vegetable gums hitherto used. It can be prepd. in higher yield, in shorter time, by culturing Xanthomonas campestris using waste liq. discarded from the prepn. of soya bean protein (abbr. soya bean whey) as the culture medium instead of common culture mediums.

The method involves adding the sugar (e.g. glucose, sucrose etc.) which Xanthomonas campestris can utilise, to the soya bean whey. The concn. of the sugar in the culture medium is 0.5-5% (favourably 1-3%) as the sum of the sugar added and the sugar originally present in the soya bean whey. 15.7.75 as 085857. C12p 19/06; C12r 1/64 (31.10.80) NISSHIN STEEL KK (3pp)(J52010492)

HAYB D16 77448 W/47 =J8 0042-635

Pullulane purificn. by adding partially water sol. solvent - avoiding the use of a decolourising stage

HAYASHIBARA SEIBUTS 31.01.74-JA-012263

*(D17) (31.10.80) *FR2259-905 +C12p-19/10 C12r-01/64*

The polysaccharide pullulane (I), obtd. by bacterial culture, is purified by eliminating the bacterial cells from the culture medium and pptg. (I) by addn. of a solvent which is partially soluble in water, and has ⩾3C atoms and 1 oxygen atom, e.g., iso-propanol. The pptd. (I) is then recovered and dried. The process requires small quantities of solvent, and the prod. does not require a special decolourising stage. 31.1.74 as 012263. C12p 19/10; C12r 1/645 (31.10.80) HAYASHIBARA SEIBUTS (5pp)(J50105887)

BOEF D16 42798 W/26 =J8 0042-636

Enzymatic analysis procedure - utilizing an NADH -regenerating enzymatic system

BOEHRINGER MANNHEIM GMBH 14.03.74-DT-412354

*B04 J04 S03 (S05) (31.10.80) *DS2412-354 +C12q-01/48*

Enzymatic determn. of substrates in biological fluids (esp. serum) by phosphorylation of the substrate (or a reaction prod. obtd. enzymatically therefrom) with ATP in the presence of a specific kinase (ADP being released), reacting the ADP released with phosphoenolpyruvate in the presence of pyruvate kinase to form pyruvate, hydrogenating the pyruvate by means of NADH in the presence of lactate dehydrogenase (LDH), and measuring the consumption of NADH.

The fluid sample is reacted with the reagents required for the reaction sequence in the absence of the specific kinase but in the presence of an NADH-regenerating enzymatic system; then the enzymes are sepd. from the reaction soln. via a semipermeable membrane; the specific kinase, pyruvate kinase and LDH are added to the filtrate; and the measurement is performed. The NADH-regenerating system pref. contains an NADH-specific dehydrogenase and its substrate (pref. alcohol dehydrogenase and an alcohol).

The process is used in diagnostic enzymatic determinations (e.g. of serum triglycerides. 12.3.75 as 029964 (clg. 14.3.74-DT-412354) C12q 1/48 (31.10.80) BOEHRINGER MANNHEIM GmbH. (6pp)(J50128594)

MITU D16 80948 A/45 =J8 0042-838

Polysaccharide having antitumour action - and tobacco mosaic virus inhibiting action, prepd. by culturing Pseudomonas hydrogenovora

MITSUBISHI CHEM IND KK 09.03.77-JA-025693

*B05 C03 (01.11.80) *J53113-091 +A01n-63/02 A61k-31/71 C12p-19/04 C12r-01/38*

In an example, Pseudomonas hydrogenovora sp. nov. 9-5 strain was inoculated from slant of nutrient agar into 50 ml. of culture medium (pH 6.0) contg. 20 g./1 l. of D-glucose, 3 g./1 l. of NH_4Cl, 2 g./1 l. of $MgSO_4 \cdot 7H_2O$ and 28 mg. of $FeSO_4 \cdot 7H_2O$ and the mixt. was subjected to shaken culture at 30°C for 16 hrs. The cultured liquor (50 ml.) was inoculated into a 2 l. volume labofermenter charged with 1 l. of the same compsn. of culture medium and the mixt. was cultured under aeration with stirring at 30°C, 700 r.p.m. and with aeration of 10 v.v.M. 9.3.77 as 025693. C12p 19/04; C12r 1/38; A01n 63/02; A61k 31/715 (1.11.80) MITSUBISHI CHEM. IND. KK (6pp)(J53113091)

TATL D16 68908 Y/39 =J8 0042-839

Alginate-type polysaccharides by culture of Azotobacter vinelandii - with saccharide concn. limiting bacterial development

TATE & LYLE LTD 28.05.76-GB-022319

*A11 (01.11.80) *BE-855-083 +C12p-19/04 C12r-01/06*

A polysaccharide, comprised of a partially acetylated variable sequenced copolymer of D-mannuronic and L-guluronic acid radicals linked 1-4, is prepd. by the continuous culture of Azotobacter vinelandii bacteria under aerobic

conditions in a medium contg. >1 monosaccharide or disaccharide, sources of phosphate, Mo, Fe, Mg, K, Na, Ca and sulphate, with either a fixed N source and/or an N-contg. ventilation gas with a pH 6-8.2. In the improvement the saccharide concn. in the medium is the limiting factor for the development of the bacteria.

The polysaccharides are used to replace alginates, (which are laborious to extract), as emulsifiers, stabilisers and thickeners. 28.5.77 as 062690 (clg. 28.5.76-GB-022319) C12p 19/04; C12r 1/065 (1.11.80) TATE & LYLE LTD. (5pp)(J52145596)

MITK ★ D16 85628 C/48 ★NL 8002-603

L-Tryptophan prodn. from D.L- or D-serine - by enzymatic racemisation and reaction with indole

MITSUI TOATSU CHEM INC 24.03.80-JA-036197 (09.05.79-JA-055645)

B02 E13 (11.11.80) C12p-13/22

Prodn. of L-tryptophan (I) is carried out by (a) contacting DL- or D-serine with serine racemase (SR) to form L-serine, and (b) reacting the L-serine with indole in the pre-sence of tryptophan synthetase (TS) or tryptophanase (TA).

Steps (a) and (b) can be carried out consecutively or simultaneously. The enzymes can be used in immobilised form or in the form of cells or extracts derived from a suitable enzyme-producing microorganism. The SR can be derived from Ps. putida IFO 12996, Brev. leucinophagum MT-10072, Ps. desmolytica MT-10170, Ps. fragi MT-10173 or Ps. taetorolens MT-10186.

Process uses readily available starting materials and avoids the use of high temps. and pressures to effect racemisation. 7.5.80 as 002603 (21pp367)

KARI/ ★ D16 C/48 ★SF 7900-765

Methane prodn. reactor

KARI J 06.03.79-SF-000765

E17 (31.10.80) C12d

ESIT= ★ D16 85749 C/48 ★SU-726-161

Corynebacterium species strain - used as nucleotide producer in medical microbiology utilising glucose and peptone contg. nutrient

E SIBE TECHN INST 13.05.77-SU-476202

B02 (B03) (08.04.80) C12d-13/06

Coryrebacterium species VST1-301 is a new bacterial strain used in medical microbiology for mfr. of nucleotides for pharmaceutical prepns.. The strain is cultured in peptone-glucose contg. medium to obtain inoculum for nucleotide microbiological prodn. The optimal growth rate in above medium with addn of mineral salts and biotin at pH 3.7 is 20-37°C(pref. 30°C).

Typical medium contg. (in wt.%): glucose 10; ketone 0.5; $MgSO_4.7H_2O$ 1; $CaCl_2$ 0.01; K_2HPO_4 1; KH_2PO_4 1 and biotin 30mg/l gave after completion of fermentation medium contg. (in mg/ml) adenosine triphosphate 1.5; adenosine diphosphate 0.55 and adenosine monophosphate 1-5 and(if guanine is added) guanine-triphosphate 0.42.

Tsyrenkov, V. Zh., Pinuev, I. O., Gonchikov, G. G., et al Bul.13/5.4.80.13.5.77.as476202(3pp938).

YALO= ★ D16 85750 C/48 ★SU-726-162

Processing alcoholic fermentation residue from wine mfr. - includes yeast autolysis, enzyme inactivation, distillation and phase sepn., used in alcohol, calcium tartrate and animal feed mfr.

YALOVENY PROD AGR 15.03.78-SU-592197

(05.04.80) A23k-01/06 C12g-01/02

Wine prodn alcoholic fermentation yeast contg. residue processed to obtain raw alcohol, calcium tartrate and animal feed protein and vitamin supplement.

The residue is diluted with water and yeasts are autolised and hydrolytic enzymes are then inactivated. The resulting mixt is distilled at 70-80°C and 2.7-3.3x10^3 Pa pressure and liquid phase conc to 20-25% or 40-50% dry material content. After sepn of calcium tartrate by pptg. the latter on cooling to 0-2°C, the prod is used in mfr of animal feed supplement contg. amino-acids and vitamins.

Kozub, G. I., Kovalevskii, K. A., Iozhitsa, V. M., et al Bul.13/5.4.80.15.3.78.as592197(2pp938).

ASIB= ★ D16 85751 C/48 ★SU-726-163

Bitter alcoholic medicinal drink - contg. specified herbs, alcoholic infusion, brandy, apple juice and honey

AS SIBE BR BOTANIC (AKGO=) 26.01.78-SU-566273

B05 (05.04.80) C12g-03/06

Bitter herb alcoholic infusion for mfr. of medicinal spirits and fortified wines contains(in kg/1000 decalitres): hadrastis root 0.8-8.0; pantocrin 0.01-0.1; cherry blossom 0.01-0.1; cherry fruits 3.5-35.0; bupleurum 0.03-0.3; pine-nut 5.0-50.0; tansy 0.05-0.5; moral root 0.8-8.0; wort 1.6-16.0; nicrochloe 0.8-8.0; sweet clover 0.8-8.0; birch tree buds 0.6-6.0; pine tree buds 2.0-20.0; origanum 0.2-2.0; mint 0.4-4.0; sage 1.4-14.0; plantain 0.27-2.7; daizy 0.05-0.5; wormwood 0.05-0.5; honey 30.0-300.0; colouring 12.0-120.0. It contains also(in l) mountain ash fruit juice 7.5-75.0; apple juice 40.0-400.0 brandy 400.0-500.0; and aq alcohol the rest.

Pushkarev, G. N., Altymyshev, A. A., Slasin, D. S., et al Bul.13/5.4.80.26.1.75.as566275(3pp938).

HELM= ★ D16 85752 C/48 ★SU-726-164

Nutrient medium for entomopathogenic nematode growing - contg. animal carcass processing waste, meat, waste broth and starch or wheat flour

HELMINTHOLOGY INST 18.01.79-SU-714235

C03 (08.04.80) C12k-01/06

Nutrient medium contg meat ind waste and starch is used for growing entomopathogenic nematodes of Nevapleotana genus for use in agricultural plant protection.

The yield of nematodes is increased and prodn. costs are reduced by addn of broth obtd by cooking animal carcass processing waste.

The nutrient medium contains(in wt.%): meat ind. animal carcass processing waste 72-77; broth obtd by cooking above waste 18-22 and starch or wheat flour the rest.

Andreeva, G. N., Kleshchinova, E. A., Tarakanov, V. I., Bul.13/5.4.80.18.1.79.as714235(2pp938).

BIOC= ★ D16 85833 C/48 ★SU-727-657

D-ribulose-5-phosphate enzyme substrate - prepd. by enzymic conversion of D-ribose-5 phosphate in presence of Phaseolus aureus leaves extract

BIOCHEMISTRY INST 05.07.78-SU-639247

(15.04.80) A61k-29 C07h-11/04

D-ribulose-5-phosphate is used as substrate for phosphoribulokinase enzyme is obtd by enzymic conversion of D-ribose-5-phosphate in the presence of Phaseolus areus leaves extract at elevated temp followed by prod. fractionation with ethanol.

The process is simplified and the yield of the final prod is increased by homogenising above leaves in 0.05M tris-HCl buffer soln at pH 7.0-7.1 in the pressure of 0.2M NaCl 0.005M N,N,N',N'-tetraacetic acid ethylene-diamine and 0.01M dithiothreitol. The enzymic process is conducted at 62-65°C for 5-6min.

Rusinova, N. G., Oan L. T. L., Doman, N. G., Bul.14/15.4.80 5.7.78.as639247(3pp938).

KIRO= ★ D16 85839 C/48 ★SU-727-663

Synthesis of nitro-fluorescein for indicator mfr. - by condensing resorcinol with 4-nitro-phthalic acid in presence of orthophosphoric acid, used in immunology and microbiology

KIROV POLY 15.05.78-SU-615738

E23 (15.04.80) C09b-11/08

Purer nitrofluorescein(I) is obtd in higher yields by condensing resorcinol(II) with 4-nitrophthalic acid(III)in the presence of H_3PO_4(IV), at 135-140°C.

Typically, mixt. contg. 80g(II) 83.12g(III) and 143g(IV) was heated with stirring for 3-3.5 hours at 135-140°C, cooled to 100°C and poured slowly into 1600ml of boiling 0.06HCl. Subsequent stirring for 30 min., cooling, filtering the ppte washing and drying in vacuo at 100-120°C gave 137.13g of a mixt of isomers of (I) later sepd into the 5- and 6-isomers.

Abramochkin, E. S., Kadyrmatova, T. P., Petrova, G. S., et al Bul.14/15.4.80.15.5.78.as615738(2pp124).

OC= ★ D16 85853 C/48 ★SU -727-681
spergillus orizae fungal strain - used in medical microbiology for rodn. of proteolytic and amylolytic enzyme complex
BIOCHEMISTRY INST 03.10.77-SU-528511
B04 (15.04.80) C12d-13/10

spergillus orizae $8F_1$ fungal strain is used in medical nicrobiology for prodn. of enzymic complex with proteo-ytic and amylolytic activity. The complex is extd from ermentation medium concentrated for use in treatment of iver and gastro-intestinal disorders.

The activity of the complex is increased if pptd com-plex is redissolved in water at 1-2°C and after adjusting soln to pH 6.9-7.0 is re-pptd by addn of ammonium sul-phate to 0.75-80% saturation followed by dialysis(using soln of calcium acetate) and freeze drying.

Galich, I.P., Kovalchuk, T.A., Peleshchuk, T.A., Pelesh-chuk, A.P., et al Bul.14/15.4.80.3.1.77.as528511(2pp).

DPO= ★ D16 85854 C/48 ★SU -727-682
Prodn. of sparkling wines - includes addn. of Trilon-B before deaeration and liquid carbon di:oxide treatment
KRASD POLY 15.11.78-SU-685945
(15.04.80) C12g-01/06

Prodn of sparkling wines includes blending wines, cooling filtration, deaeration and saturation with carbon dioxide gas. The sparkling characteristics of the final prod are increased giving high quality sparkling wine if prior to the deaeration the wine is treated with Trilon B in amts of 50-100 mg/l and the prod is satd with carbon dioxide by addn of liquid CO_2.

Trilon B forms complexes with wine components which retard the loss of carbon dioxide.

Merzhanian, A.A., Tagunkov, Yu.D., Mishin, M.V., Bul.14/15.4.80.15.11.78.as685945(2pp938).

KHOR= ★ D16 85855 C/48 ★SU -727-683
Medicinal strong alcoholic drink - contg. addn. of specified herbs alcoholic extract to improve organoleptic characteristics
KAZA HORTIC VINICUL 21.10.77-SU-536899
(15.04.80) C12g-03/12

Alcoholic extract of herbs for use mfr of fortified wines and spirits with medicinal and organolepticcharacterist-ics contains(in kg/1000 decalitres):wormwood 0.5-0.7; wild majoram 1.0-2.0; yarrow 0.4-0.6; mint 1.5-2.0; Ziziphona 1.8-2.4;buckthorn 0.4-0.6; levsia root 0.6-1.2; radiola root 0.15-0.3; wild rose 1.5-2.4;barberry 0.7-1.6; wort 0.7-1.0; hawthorn 0.5-1.4; juniper 0.4-0.6; inula 0.15-0.4; chamomile 0.15-0.6; thimus 1.0-1.6; oak bark 1.0-1.6; apple-tree leaves 0.9-2.0;pear tree leaves 0.9-2.0 and wine-alcohol base the rest.

Brandy-type spirit can be used with addn of colouring and apple juice alcoholic extract after maturing it.

Beketaeva, L.I., Chipurin, M.M., Nurlanov, T.N., et al Bul.14/15.4.80.21.10.77.as536899(3pp938).

GHOR= ★ D16 85856 C/48 ★SU -727-684
Stabilisation of alcoholic drinks - includes treatment with grape-vine ash to improve removal of heavy metals and lipid(s)
GEOR HORTIC VINICUL (TBIL=) 30.03.78-SU-598555
(15.04.80) C12h-01/02

Stable alcoholic drinks are obtd by treating prod contg. heavy metal cpds and lipids with grape-vine ash, using 0.5-0.6g ash per 1mg/l ion excess.

The ash in a bag made from three-layers of gauze-type material is placed into the container contg alcoholic drink and held there for 2.5-3 days with stirring. After this the ppte is sepd by filtration in order to remove heavy metal cpds, lipids, proteins and gummy materials. Brandy type spirits can be stabilised and clarified cheap-ly using locally obtd material.

Gagoshvili, V.S., Chanishvili, V.I., Kobaidze, T.A., et al Bul.14/15.4.80.30.3.78.as598555(2pp938).

MEDI= ★ D16 85857 C/48 ★SU -727-685
Curvularia inaequalis 75 fungal strain - is beta-galactosidase producer, useful in hydrolytic enzyme deficiency therapy
MEDICAL ENZYMES ANT 15.09.77-SU-526193
(15.04.80) C12d-13/10 C12k-01

Mycelial fungus strain Curvularia inaequalis 75 is used in medical microbiology as producer of beta-galactosid-ase. The enzyme which hydrolyses lactose into glucose and galaetose is used in treating galoetoside deficiency disorders in children.

It can be cultured on nutrient contg. 3.0% soy bean flour with addnof mineral salts(including disodium phos-phate and ammonium sulphate)and in the absence of cit-ric acid which reduces the enzyme mfg costs and gives high activity enzyme in high yield after 72-96 hr culturing at 28°C with stirring. Using addn of 2% inoculum, the fer-mntation medium after 4 days culturing has 3.0 units/ml enzymic activity.

Lapina, I.K., Zhurova, R.A., Shabunov, B.E., et al Bul.14/15.4.80.15.9.77.as526193(3pp938).

UGLI= ★ D16 85858 C/48 ★SU -727-686
Streptococcus lactis bacterial strain - used in mfr. of lactic flora bacterial starter in cheese prodn. utilising low temp. maturation
UGLICH CHEESE BUTTE 18.09.78-SU-666189
(15.04.80) A23c-19/02 C12k-01/02

Streptococcus lactis 791 bacterial strain is used in prod of lactic flora bacterial starter(in dry or liquid form)for cheese mfg ind which requires flow temp cheese matura-tion process.

This streptococcal strain has optimal growth rate in milk contg milk clotting enzymes at temp used in cheese mfr(32-41°C) without formation of bitter taste polypeptides and remains active at temp of cheese maturation(9-14°C). The strain has high lipolytic activity with max growth rate at 30°Cin hydrolysed broth contg nutrient medium at pH 9.2.

Addn of 5% starter contg above strain slots milk after 5-6 hrs at 30°C. Using addn of 0.7-1.5% starter in cheese prodn. The fermentation is completed after 14-18 hrs.

Belova, E.A., Medvedeva, Z.P., Balashova, T.N., et al Bul.14/15.4.80.18.9.78.as666189(3pp938).

COMM- D16 57893 X/31 =SU -728-720
Viral hepatitis vaccine - prepd. from serum of particle size 16 to 50 nanometres and having free antigen-e
COMMUNITY BLOOD NY (NYBL-) 17.11.75-US-631961
*B04 (15.04.80) *BE-839-306 C12k-05*

Novel vaccine for viral hepatitis has the following char-acteristics(A) it has antigenic particles of size 30-50nm these particles having free surface antigens and not hep-atitis-B precipitates;(B) contains <10 units of hapatitis-B surface antigen antibodies per 1000 units of hepatitis-B surface antigen(C) >5% of the vaccine particles have size 30-50nm and contain non-precipitated antigen-e; and(D) the hepatitis-B surface antigen(HBsAg) and the antigen-e are present in the vaccine in sufficient quantit-ies to produce antibodies in the host animal after their introduction, the rest of the vaccine being a physiologica-lly acceptable medium.

Prince, A.M., Newrat, A.R., Vnek, J., et al Bul.14/15.4.80 12.3.76.as332953(6pp).

KUMM/ ★ D16 86224 C/48 ★US 4233-266
Bulk pasteurisation of mushroom compost - with controlled recirculation of air and addition of fresh air and steam
KUMMER D A 18.09.78-US-943135
(11.11.80) B01j-19 C05f-11/08 C12m-01/04

An appts. used for the bulk pasteurisation and aeration of mushroom compost consists of a room having a floor spac-ed from the bottom of the room. The floor has a perfor-ate central region. A perforate wall extends upwardly from the periphery of the perforate floor region. Thus there is a central chamber having perforate walls and a surround-ing space.

A blower is positioned in the space and this circulates the air within the room and also permits the controlled addition of steam and fresh air. The bottom of the room slopes downwardly to a liquid drain. There is also a gas outlet.

The appts. is used for the bulk Phase II pasteurisation of compost for the culture of Agaricus bisporus. The com-post may successfually handled in large quantities e.g.

two-hundred cubic metre batches, and still yield a uniform prod. 18.9.78 as 943135 (5pp295)

SCIE D16 42405 B/23 =US 4233-291

Depsipeptide extract of Fusarium equiseti - used to provoke immune response esp. for respiratory tract infection, and as antiviral and antimicrobial

SCIENCE UNION & CIE 30.11.77-FR-036000

*B04 (11.11.80) *BE-872-385 A61k-37 C07c-103/52 C12p-21*

Mixts. of peptidolic substances are obtd. from the mycelium of Fusarium equiseti. The mixt. is separable into four components by high pressure liquid chromatography. On acid hydrolysis the mixt. gives α-hydroxy isovaleric acid, N-methyl valine, N-methyl isoleucine and N-methyl allo isoleucine. On alkaline hydrolysis is gives the lactones of α-hydroxy isovaleroyl N-methyl valine, α-hydroxy isovaleroyl N-methyl isoleucine and α-hydroxy isovaleroyl N-methyl allo isoleucine.

Cpds. are of value for the immunological therapy and may be administered parenterally, permucously, percutaneously, sublingually or rectally. 27.11.78 as 964071(12pp)

SYNT D16 06499 B/04 =US 4233-401

Competitive protein binding assay - for determining a member of an immunological pair, using an enzyme conjugate to a member of the pair together with an enzyme inhibitor

SYVA CO 14.07.77-US-815487

*B04 J04 S03 (S05) (11.11.80) *GB2001-172 G01n-33/16 +G01n-31/14*

Determn. of the presence in a sample of an analyte which is a member of an immunological pair consisting of ligand and ligand receptor, is described.

Method involves (1) combining in aq. medium (A) the sample, (B) enzyme-band-ligand which retains a substantial amt. of its activity when bound to receptor, (C) ligand receptor, when ligand is the analyte, the receptor being capable of specifically binding to the ligand and the enzyme-bound-ligand, and (D) enzyme inhibitor of mol. wt. $\geqslant$2000 and which is impeded from inhibiting the enzyme-bound-ligand when receptor is bound to enzyme-bound-ligand, and (2) determining the enzymatic activity in the medium as compared with that in a medium having a known amt. of analyte.

Method is sensitive and accurate and can be used for determining extremely low concns. of ligands, including both haptenic and antigenic ligands. 14.7.77 as 815487(15pp)

SYNT D16 77640 B/43 =US 4233-402

Immunoassay method for component of ligand anti:ligand pair - using labelled conjugates forming a signal generating system

SYVA CO 05.04.78-US-893650

*B04 J04 S03 (S05) (11.11.80) *DT2913-550 C12q-01/66*

Chemical analysis of an analyte which is a member of a specific binding pair of organic substances consisting of ligand and antiligand, is described. Method involves bring-ing together with the analyte, in aq. assay medium under mild conditions, (I) a conjugate of a member of the binding pair with a chemical entity which provides a means for changing the concn. of a signal mediator cpd., (II) a signal mediator precursor and (III) a conjugate of a member of the binding pair with a component of a signal producing system of which the signal mediator is a member.

The amt. of signal which can be detected is affected by the local concn. of the signal mediator. By appropriate choice of the 2 conjugates in conjunction with the analyte, the observed signal can be related to the amt. of analyte in the medium. 5.4.78 as 893650 (20pp393)

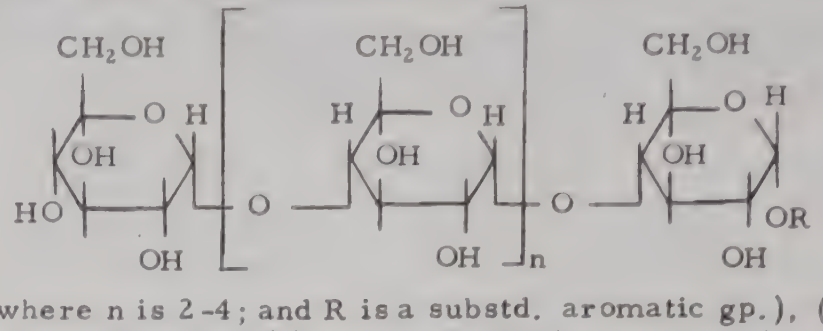
DUPO ★ D16 86274 C/48 ★US 4233-403

Rapid determn. of amylase - by mixing with aromatic-substd.-glycoside and maltase, then monitoring spectral absorbence

DU PONT DE NEMOURS CO 27.02.78-US-881669 (13.07.76-US-704976)

B04 (11.11.80) C12q-01/40

Determn. of amylase (I) in a sample involves (a) addn. to a soln. of the sample a polysaccharide substrate of formula (I)



(I)

(where n is 2-4; and R is a substd. aromatic gp.), (b) addn. of a maltase and (c) monitoring of the spectral absorbance of the soln. (I) has a different spectral absorbance from that of the substrate.

The procedure is rapid (measurements can be made within 1 hr. of starting the reaction). The results are useful in clinical diagnosis, esp. of acute pancreatitis when serum (I) levels rise. 17.2.78 as 881669 (8pp1248)

CALS- ★ D16 86275 C/48 ★US 4233-404

Detection and concn. of pathogens in air and water - by accumulating at a water:air interface

CALSPAN CORP 09.11.79-US-092796

(11.11.80) C12q-01/24

Airborne and waterborne pathogens are detected and conc. by applying the fluid under test to an air-water interface of large surface area, with minimal agitation of this interface. After an appropriate time, the area of the interface is reduced and the conc. pathogens removed for analysis.

Esp. airborne pathogens are collected in a shallow vessel contg. a layer of water to which a drop of protein soln. has been added to form a film. Waterborne pathogens are collected by placing a portion of the sample in a shallow vessel, then adding the remainder dropwise.

The method effectively concentrates pathogens from dilute samples, is rapid, and simple without requiring elaborate equipment. 9.11.79 as 092796 (4pp1251)

ROHM ★ D16 86276 C/48 ★US 4233-405

Prepn. of spray dried enzyme compsns. - by ultrafiltration concn., mixing with water insol. salts, and controlled spray drying

ROHM & HAAS CO 10.10.79-US-083449

B04 (11.11.80) C12n-09/98

Spray-dried enzyme (I) compsn. is prepd. as follows-: (a) a liq. (I) soln. is concd. by ultrafiltration; (b) H_2O-insol. salts (II) and opt. H_2O-insol. suspenders and thickeners (III) are added; (c) the compsn. is intimately mixed and spray dried at an air inlet temp. 150-180 °C and air outlet temp. 65-90 °C.

Pref. (I) are proteases from Bacillus spp. or Aspergillus spp., or an amylase from Bacillus spp. (II) include tribasic Ca or Mg phosphate, $CaCO_3$, Ca, Mg silicate, Mg or Ca silicate, MgO, etc. (III) include cornstarch, potato starch, tapioca, cellulose, etc. The compsn. is spray dried at inlet temps. pref. 150-177 °C, esp. 155-165 °C, and outlet temps. pref. 70-85 °C, esp. 75-83 °C.

Process gives good solids recovery and a dry concentrate which has good activity and good storage stability, etc. 10.10.79 as 083449 (6pp478)

ECKE/ ★ D16 86277 C/48 ★US 4233-407

Apparatus for continuous fermentation of liquids - using tower with liquid, steam and sterile air inlets

ECKES P 15.11.78-US-960893 (03.11.76-US-738404)

(11.11.80) C12b-01 C12c-11 C12g-01

An appts. for the continuous fermentation of a soln. under sterile conditions includes an upright, slender fermentation tank with an enlarged upper end section. The unfermented feed is admitted to the bottom of the tank. Sterile gas is bubbled into the tank from an inlet connected to a gas supply via a membrane filter and sintered candle. A steam inlet is connected to the bottom of the tank to permit sterilization. There is a product discharge at the top of the tank.

Sterile gas may also be admitted to the upper end of the tank. Similarly steam may be supplied to the upper end. A gas exhaust is connected to a membrane filter and a pressure regulator to maintain excess pressure in the tank.

The appts. is partic. for the continuous fermentation of grape juice. 15.11.78 as 960893 (4pp295)

BRPE D16 13391 A/07 =US 4233-438
Microbial biomass and hetero-polysaccharide bio polymer prodn. - by growing methane utilising microorganisms in an aq. broth contg. nitrogen nutrients, useful as meat substitutes
BRITISH PETROLEUM LTD 29.07.76-GB-031639
*A11 G03 H04 (A97 D12 H01) (11.11.80) *NL7708-270 +C07h-01/08 C08b-37*

Polyanionic heteropolysaccharide biopolymer (I) has a molecular wt. of $5.0x10^5$-$2x10^8$ when measured by gel permeation chromatography. (I) comprises the saccharide residues contg. 38-48% glucose, 11-20% fucose, 7-21% mannose, 11-18% galactose and 10-20% uronic acid based on wt. of (I).

(I) is used as a thickener e.g. in foods or in the oil industry for use in drilling muds and to assist the recovery of subterranean deposits of oil. 27.7.77 as 819579(11pp)

MINU D16 82635 C/47 =WP 8002-380
Fractional pptn. of protein(s) - with addn. of precipitant through dialysis membrane
MINNESOTA UNIVERSITY 04.05.79-US-036031
*B04 J01 (13.11.80) *BE-883-099 +B01d-13 C07g-07 C09h-07*
D/S: N(AU, BR, CH, DK, DT, GB, JA, LU, MC, MD, MW, NL, NO, OE, RU, SW, SU) + E(CF, CH, DT, FR, GA, GB, LU, NL, OE, SN, SW, TO, TS, ZR).

Protein fractionation is carried out by (a) circulating a cold protein soln. through an enclosed space on one side of a porous membrane, (b) adjusting the temp. by circulating a soln. of a liq. protein precipitant in contact with the other side of the membrane, (c) increasing the flow rate and pressure of the precipitant soln. so that the precipitant passes through the membrane and mixes with the protein soln., and (d) separating the ppted. proteins. This procedure can be repeated several times with successive supernatant solns. to achieve the desired degree of fractionation.

The process is esp. useful for Cohn fractionation of plasma proteins with ethanol. It allows precise control of ethanol addn., temp., pH and ionic strength, and gives high purity protein fractions in finely divided form in a shorter time than conventional Cohn fractionation. Shear-induced denaturation and pyrogen contamination can be avoided.

1.5.80 as US0481 (36pp367).
(E) ISR: US4136094; US2390074; US2469193; US2770616; US3763135; US3764009; US3869436; US3998946; 1 Journal Reference.

ETHY ★ D16 86346 C/48 ★WP 8002-421
Sepn. of D,L-phenylalanine ester into D and L isomers - using a microbially derived serine proteinase in aq. soln. at specified pH
ETHYL CORP 08.05.79-US-037162
B05 (13.11.80) C07b-19/02
D/S: N(JA) + E(CH, DT, FR, GB, LU, NL, OE, SW).

Sepn. of the D- and L-isomers of D,L-phenylalanine or its derivs. comprises (1) subjecting a mixt. of N-acetyl-D-phenylalanine methyl ester (I) and N-acetyl-L-phenylalanine methyl ester (II) to the action of a proteolytic enzyme in aq. soln. at pH 5-10 to convert (II) to N-acetyl-L-phenylalanine (III); and (2) separating (III) from (I). The enzyme is a microbially derived serine proteinase.

The process can be used to resolve a racemic mixt. of N-acetyl-D,L-phenylalinine into its D- and L-components; or as the first step in the conversion of a racemic mixt. of (I)+(II) into solely the D- or L-isomer, which can then be converted to L- or D-phenylalanine. D-phenylalanine has analgesic activity specifically as an inhibitor of carboxypeptidase A and is useful in preventing these enzymes breaking down encephalins which are natural analgesics.

28.4.80 as US0488 (17pp985).
(E) ISR: US3963573; US3907638; US3813317; US3347752; US3031380; BE-855051. 8 Journal References.

NATR D16 83066 C/47 =WP 8002-433
Rapid identification of bacteria - by determination of bacterial enzymes, pref. by continuous flow analysis
NATIONAL RES DEV CORP (NATC BASC) 02.05.79-GB-015318
*B04 (13.11.80) *EP--18-825 C12q-01/04*
D/S: N(DK, JA, US)

(A) Identification of bacterial compsns. comprises subjecting the bacteria to a combination of tests for the determination of bacterial enzymes. The enzymes are lipase, α- or β-glucosidase, β-xylosidase, β-glucuronidase, β-galactosidase, whole cell phosphatase, acid phosphatase (in the presence of agents which disrupt the bacterial cell permeability barrier), DL-alanyl-β-naphthylamine specific peptidase, L-arginyl-β-naphthylamine specific peptidase, N-γ-L-glutamyl-β-naphthylamine specific peptidase, glycyl-β-naphthylamine specific peptidase, L-4-hydroxyprolyl-β-naphthylamine specific peptidase, L-leucyl-β-naphthylamine peptidase, L-leucyl-4-methoxy-β-naphthylamine specific peptidase, L-lysyl-β-naphthylamine specific peptidase, L-prolyl-β-naphthylamine specific peptidase, L-pyrrolidonyl-β-naphthylamine peptidase, alanyl-p-nitroalanine specific peptidase, glutamyl-p-nitroalanine specific peptidase, diacetyl/acetoin producing enzymes, p-nitrophenylalanine ammonia lyase, tryptophanase, deoxyribonuclease, glutamate decarboxylase and cytochrome oxidase.

30.4.80 as GB0077 (43pp985)
(E) ISR: GB2005410; US4024530; FR2356723; 10 Journal references.

IMMU- ★ D16 86358 C/48 ★WP 8002-459
Blood test for diagnosing multiple sclerosis and malignant disease - by measuring effect of specific antigenic extract on sensitised leucocytes
IMMUNOLOGY DEV CORP (ANGE) 30.04.79-WP-U00272
B04 J04 S03 (S05) (13.11.80) C07g-07/10 G01n-33/48 G01t-01/10
D/S: N(BR, DK, JA, MD, MW, SU, US) + E(CF, CH, DT, FR, GA, GB, KA, LU, OE, SN, SW, TO, TS, ZR).

Multiple sclerosis (MS) is diagnosed by mixing leucocytes from a blood sample with an antigenic blood extract specific for MS-sensitised leucocytes, so that the ability of the sensitised leucocytes to adhere to a glass surface is inhibited. The extent to which adherence has been inhibited is then measured.

Pref. the leucocytes are sepd. from the blood sample before test and the antigenic extract is prepd. from a blood pool taken from patients known to have MS. Opt. the sample leucocytes are labelled, e.g. radioactively.

In modifications, the enhanced ability of agglutination agents coated with extract to cause clumping of leucocytes; or ability of the extract to cause lysis of the leucocytes is measured.

The same methods can be used to detect specific malignant diseases using appropriate antigenic extracts and malignant-disease sensitised leucocytes.

30.4.79 as US0272 (37pp1251)
(E) ISR: WP7900796; US4136160; US4146603.

GOEL- ★ D16 86359 C/48 ★WP 8002-460
Determining serum apoprotein by competitive binding reaction - with immobilised antibody and enzyme-lipoprotein complex
LAB GOELLA (CARL) 02.05.79-FR-011082
B04 S03 (S05) (13.11.80) G01n-33/92
D/S: N(DT, GB, JA, SW, US)

Process for determining serum apoproteins (A) comprises reacting a known amt. of specific antibody (AB) against (A), immobilised on a solid carrier, with (a) a serum sample and (b) a known amt. of enzyme-lipoprotein complex (B) (in which the lipoprotein corresponds to (A)). After reaction, unfixed reagents are removed from the support and the enzymatic activity of the complex retained on the support measured.

Pref. (B) is derived by attaching an enzyme, esp. alkaline phosphatase, peroxidase or galactose oxidase, to a serum lipoprotein fraction contg. several apoproteins. The enzyme is esp. attached using glutaraldehyde or by forming a Schiff's base.

The method is used to detect persons at risk from cardiovascular disease. It is simple, very sensitive (down to 0.001 µg/ml apoprotein as N) and does not require sepn. of individual lipoprotein fractions.

30.4.80 as FR0067 (21pp1251).
(F) ISR: 7 Journal References.

See Also

D12 J8 0042609 D13 J5 5132696 D13 J8 0042613
D13 J8 0042618 D13 J8 0042620 D13 J8 0042622
D13 J8 0042627 D13 J8 0042633 D13 J8 0042818
D13 WP 8002458 D15 GB 2047223 D23 FR 2448567'

D17: SUGAR; STARCH

BOSC ★ D17 84531 C/48 ★DT 2918-245
Continuous massecuite discharge mechanism - with contra-rotating smooth roller and vertical two-start worm
BOSCH R GMBH 05.05.79-DT-918245
(20.11.80) A23g-03/04

A continuous discharge of massecuite from a vacuum boiler is effected by a worm conveyor with a housing attached to the boiler. The part of the worm which extends freely into the housing contacts with its periphery a parallel smooth cylindrical roller which revolves in the opposite direction and is fitted with a stationary scraper.

This ensures that the turns of the worm are kept filled with massecuite even at a very low level. A uniform and reliable discharge is thus achieved, maintg. a high vacuum and full capacity. 5.5.79 as 918245(10pp39)

NATT D17 70247 X/37 =J8 0042-640
Non-chemically inhibited starch prodn - by heating aq intact granular amylose starch with salts which increase gelatinization temp
NAT STARCH & CHEM CORP 08.09.75-US-611136
*(31.10.80) *US3977-897 C13l-01/08*

A non-chemically inhibited starch (I) is prepd. by heating an aq. suspension, having pH 3-9, prepd. from 100 pts. amylose-contg. starch (II) in intact granule form and 10-60 pts. inorganic salt (III) which raises the gelatinisation temp. of (II), at 50-100°C for 0.5-30 hrs. (III) is chosen from Na, NH_4, Mg or K sulphates; Na, K or NH_4 chlorides or phosphates, esp. Na_2SO_4 or K_2SO_4.

Since no chemical additives are incorporated, (I) can be used more widely in foods and pharmaceuticals than chemically inhibited starch, e.g., in dry mix prods. such as salad dressings or puddings, and in canned pie fillings. Addn. of (III) allows use of high temps. without causing the granules to swell and rupture. 8.9.76 as 106846 (clg. 8.9.75-US-611136) C13l 1/08 (31.10.80) NAT. STARCH & CHEM. CORP. (6pp)(J52038037)

HOKK- D17 92127 A/51 =J8 0042-840
Maltose liq. purificn. - by contacting with activated carbon in an aq. soln. of methanol, ethanol or acetone (DK 13.11.78)
HOKKAIDO TOGYO KK (HOKA) 21.04.77-JA-045175
*E13 (01.11.80) *J53130-754 C13k-07*

The process comprises contacting activated C with aq. soln. methanol, ethanol or acetone, adding the same organic solvent to maltose liq. until the same concn. as the aq. soln. of the organic solvent is obtd., and contacting the prepd. activated carbon with the maltose liq., method further comprises sepg. the activated C with the maltose liq., removing the organic solvent from the obtd. maltose liq., recovering the organic solvent to use again, washing the sepd. activated carbon with organic solvent with higher concn. than the aq. soln. of the organic solvent, washing it with conc. hydrochloric acid, and then, washing it with water to regenerate and use again, in a process for purifying maltose liq. obtd. by hydrolysing starch with activated carbon.

Maltose liq. is purified to up to 98.5% industrially with high yield. 21.4.77 as 045175. C13k 7/00 (1.11.80) HOKKAIDO TOGYO KK (8pp)(J53130754)

See Also

D15 US 4233406 D16 DL 144173 D16 J8 0042635
D18 SU 728689

D18: SKINS; HIDES; LEATHER; TOBACCO

SCHO- D18 19642 V/11 =DS 2241-602
Leather/hide dressing machine - using single roller for staking knives grinding strips and brushes
FA SCHODEL E 24.08.72-DT-241602
*(20.11.80) *DT2241-602 C14b-01/40*

On the working cylinder of a machine for processing leather, hides and skins, additional grinding plates are fitted and are arranged in the axial direction alternately to the smoothing knives. Smoothing knives and grinding plates are arranged in the form of two spirals which open out from the axial centre of the cylinder in opposite directions.

The workpiece holder moves vertically and the workpiece is pressed against the working cylinder. A brush strip runs parallel to the knives, and the range of necessary operations is performed simultaneously to give a prod. of high quality since the skins are homogenised immediately after beating. 24.8.72 as 241602. (6pp1045)

PATP- D18 20291 B/11 =GB 1579-918
Flat material drying machine - with heated jacketed drum and sealed membrane strip
PATPAN INC 02.09.77-CH-010706
*J08 Q76 (26.11.80) *DT2837-571 F26b-09*

Apparatus for vacuum drying flat porous articles comprises a rotatable cylinder with an internal heater adjacent the whell and a cover enclosing an article and consisting of a flexible non extensible fluid-tight diaphragm conforming to the surface and having a porous cushion layer on its inner face.

A seal is located between the cylinder and cover when closed so that the article is within a hermetically sealed space which can be connected to a vacuum source. The diaphragm is pref. rectangular and of a length equal to the cylinder circumference and the seal is secured to the diaphragm periphery. 26.1.78 as 003132 (16pp1358)

LEAT= ★ D18 85753 C/48 ★SU-726-167
Processing raw leather for shoe soles mfr. - including simultaneous treatment with titanium tanning agents and greasing emulsion
LEATHER FOOTWRE IND 31.10.78-SU-680306
(15.04.80) C14c-03/04

Raw leather is treated by:simultaneously tanning the leather with Ti cpds and greasing it;tanning it with Zr cpds; and neutralising and filling by treatment with urea and urotropin, in prefd amts of 10-15% and 5-7% respectively on raw leather wt.

The process is quicker than conventional treatments. The prod is used in footwear(pref soles)mfr..

Pustylnik, Ya. I., Metelkin, A. I., Zaides, A. L., et al Bul. 13/5.4.80. 31.10.78. as680306(2pp314).

KUPO= ★ D18 85754 C/48 ★SU-726-168
Compsn. for imparting pearlised finish to chrome leather - comprises urethane prepolymer lacquer and aluminium powder
KAUN POLY (SHAU=) 22.05.78-SU-620401
A82 G02 (08.04.80) C14c-11

Compsn for giving chrome leather a pearlised finish com-

rises(in pts wt): a urethane prepolymer based on a polyurite and a diisocyanate 3.0-3.5, acetone 21-22, cyclohexanone 3.5-4.0, hexamethylene-diamine 0.10-0.15, l powder 0.05-0.50 and ethanol 4.5-5.0.

The compsn produces the desired finish with high quality.

imanaikite, G.K., Skodenis, A.A., Chizhaite, V.A., et al ul. 13/5.4.80.22.5.78.as620401(3pp314).

HIM D18 13296 Y/08 =SU-728-689

obacco substitute material - comprises a carbohydrate treated with zone to form a specified carboxyl group concn.

PHILIP MORRIS INC 15.08.75-US-604944

*P15 (D17) (15.04.80) *DT2636-597 A24b-15*

Material comprises a carbohydrate contg. ≥0.2m equivs CO_2H groups/g and is formed by contacting the carbohydrate with ozone. The subjective quality of the smoke produced is improved when this material is used either as the covering for the packing material for cigarettes, cigarillos, cigars etc.

The carbohydrate is pref a polysaccharide, esp. ones of formulae $(C_6H_{10}H_5)_n$ (where n = 100-2000). The polysaccharide is comminuted and its moisture level pref. adjusted to 10-35 wt.% before treatment with ozone.

Rainer, N.B., Houelzel, C.B., Hopkins, W.S., Bul. 14/15.4.80.16.8.76.as388101(5pp).

TOBA= ★ D18 85980 C/48 ★SU-728-831

Tobacco nicotine content determination - by mixing with salt and alkali and steam distilling, with addn. of phospho-tungstic acid, and use of filter paper for colour test

TOBACCO RES INST 22.09.77-SU-530939

S03 P15 (26.04.80) A24b-15/04 G01n-31

Method for determining the nicotine content in tobaccos of different types, by mixing a weighed portion with NaCl NaOH and water; the resulting mixt. is distilled and the nicotine is released by the steam, and cooled to produce a distillate to which the reagents are added.

The method is speeded up and simplified by boiling the mixt during the distillation. The reagents used include phosphotungstic acid in an amt. necessary to precipitate the previously given quantity of nicotine. The analysis is done with an indicator, e.g. a piece of filter paper impregnated with Dragenborf's reagent to produce a colour proportional to the nicotine concn. The equipment comprises a distillation flask, reflux condenser, receiver and electric heater. The receiver is cylindrical, has a tube linking it to the condenser and has double walls providing a circular space for collecting the distillate and an outflow tube.

Mokhnachev, I.G., Sherstyanykh, N.A., Bul. 15/25.4.80. 22.9.77.as530939(4pp29).

D2: DISINFECTANTS; DETERGENTS

D21: DENTAL; TOILET PREPARATIONS

OREA ★ D21 84341 C/48 ★BE-883-265

Cosmetic compsn. for the hair, pref. a shampoo - contg. at least one sarsaparilla extract in an appropriate vehicle

L'OREAL SA 15.05.79-LU-081257

(13.11.80) A61k

Compsn. for washing and treating the hair comprises at least one Sarsaparilla extract (Smilax species).

The extract is pref. obtained from one of the following species:- Smilax aspera, officinalis, regilii, glaberrina, medica, aristolochiaefolia, papyraceae, febrifuga, ornata, saluberina, or china. It is pref. obtained by maceration, digestion, decaction, infusion or lixiration. Pref. an aq. extraction is used, or lixiration at ambient temp. with at least one lower alcohol of strength 20-100° or with a mixture of water and ethyl acetate or acetone. The compsn. pref. contains 0.1-20%, esp. 0.5-10%, of extract on a dry basis. Its pH is pref. 3-8.5, esp. 4-8. The compsn. pref. also contains another plant extract such as of soapnant, ivy horse-tail; also at least one surfactant and other ingredients from perfumes, colourants, thickeners, preservatives and anti-oxidants.

The extract has good cosmetic and detergent properties whilst not causing any eye irritation as a result of inadvertent contact. 13.5.80. as 883265. (13pp597).

OREA ★ D21 84342 C/48 ★BE-883-266

Cosmetic compsn. for washing and combing out hair - contg. plant extract contg. saponoside and a cationic polymer

L'OREAL SA 15.05.79-LU-081256

A96 (13.11.80) A61k

Compsn. comprises in an appropriate cosmetic vehicle (1) ≥0.5% on a dry basis of at least one extract of plants whose active principle is at least one saponoside; and (2) at least one cationic polymer.

Use of the natural surfactant largely avoids rapid regreasing which can be provoked using a synthetic surfactant/cationic polymer combination. Compsn. makes the hair more supple, easier to dress, with less static present. 13.5.80. as 883266. (22pp597).

OREA ★ D21 84353 C/48 ★BE-883-296

Cosmetic compsn. for removing make-up from the face and eyes - contg. at least one of each of sarsaparilla extract and surfactant

L'OREAL SA (IROQ-) 14.05.80-BE-883296 (15.05.79-LU-081257)

(14.11.80) A61k

Compsn. contains as cleansing substance at least one synthetic surfactant and at least one Sarsaparilla extract (Smilax species).

Pref. extracts are of Sarsaparilla medica, officinalis, regilii, glaberrina, aspera, aristolochiaefolia, papyraceae, febrifuga, ornata, saluberina or china. It is pref. obtained by maceration, digestion, decoction, infusion or lixeration. Pref. an aq. extraction is used, or lixeration at ambient temp. with at least one lower alcohol of 20-100° strength or with a mixture of water and ethyl acetate or acetone. The amt. of extract present on a dry basis is pref. 0.1-10%, esp. 0.2-5%. The compsn. pH is pref. 4-8.5, esp. 6-8. The compsn. pref. has an oil-in-water emulsion vehicle with 5-70% oil and 30-95% water. Other pref. ingredients are other plant extracts such as of soapwort, ivy or horse-tail; and normal additives such as anti-oxidants, amino-acids, perfumes, preservatives, buffer cpds, humectants and thickeners.

The extract reinforces the detergent power of the compsn. at the same time reducing any irritating effect the surfactant may have particularly on the eye mucus. 14.5.80. as 883296. (11pp597).

FREU D21 60607 A/34 =DS 2705-669

Water soluble keratin hydrolysate prodn. - by two stage hydrolysis of wool or hair with acid, and alkaline protease

FREUDENBERG, CARL FA 11.02.77-DT-705669

*(20.11.80) *DT2705-669 A61k-07/06 +C07j-07*

A water soluble hydrolysate is prepd. from fibrous keratin such as hair and wool. The purified crude material is first hydrolysed with acid at above 80°C and at pH under 2 for at least 4 hrs. and then after purifying with water the material is hydrolysed enzymatically. The enzymatic hydrolysis is effected at 30-70°C and pH of at least 8.5 in

the presence of alkali and 0.01-1.0 moles/litre urda with an alkali bacterial proteinase with optimal activity at pH 9-13. After hydrolysis the enzyme is inactivated by heat. Hair ash from the tanning industry may be used to produce a water-soluble hydrolysate useful in the cosmetic industry. 11.2.77 as 705669. (4pp068)

COLT- D21 02160 B/02 =DS 2747-811
Silicon compsn. for showing pressure spots under dentures - in form of two-component paste contg. silanol terminated di:methylol-polysiloxane(s)
COLTENE AG 30.06.77-CH-008061
*A96 S02 P32 (A26) (20.11.80) *DT2747-811 A61c-11 +C08l-83/04*
The use is claimed to indicate pressure sites under dental prostheses of a combination of a base compsn. contg. ⩾1 dimethylpolysiloxane having silanol end-gps. of viscosity 10^2-10^5 cP and opt. diluents, pigments and fillers and a crosslinking component of an ethyl polysilicate pre-condensate and an organotin catalyst.

The compsn. is spread as a thin film on the prosthesis and hardens as the latter is pressed into place. Pressure sites are indicated by sharp cracks which are not accidentally destroyed when the prosthesis is removed. 25.10.77 as 747811. (3pp922)

BABO- ★ D21 84631 C/48 ★DT 2919-422
Cosmetic skin treatment compsns. - contg. acidimetric colour indicators to allow treatment, e.g. pH regeneration of skin to be followed by colour changes
DR BABOR & CO GMBH 15.05.79-DT-919422
(20.11.80) A61k-07
Cosmetic skin treatment agent contains one or more acidimetric colour indicators so that the course of the treatment can be followed by observing the colour change occur-ing.

The agents are esp. useful in the pH regeneration of the skin after treatment with highly alkaline or strongly acid cosmetic prepns. such as cold waving treatments, hair removal prepns. or skin softening masks (alkaline) or bleaching agents (acid). After the treatment, a pH-regeneration prepn. is applied contd. an acidimetric colour indicator, esp. in the range pH 1.2-13.0, so that the progress of the pH regeneration process can be followed by the colour change occuring. 15.5.79 as 919422(15pp513)

MACC/ ★ D21 84734 C/48 ★DT 3015-868
Use of antiperspirants as dermatological agents against skin flaking - e.g. in shampoos against dandruff
MACCABEZ J 15.05.79-CH-004501
E33 (20.11.80) A61k-07/08 A61k-45/06 C11d-03/48
New use of antiperspirant prods. is as dermatological agents against flaking of skin. Pref. antiperspirants are those contg. aluminium chloride as active ingredient. For use, the antiperspirant is mixed with a liq. soap, mixed with a shampoo (for the treatment of dandruff) or diluted with water. When used in conjuction with a shampoo, the antiperspirant is pref. allowed to act on the scalp for a few minutes before rinsing off.

Effect of antiperspirants on flaking of the scalp and of the skin under the hair of the chest has been tested for 2 years, with excellent results. 24.4.80 as 015868(4pp280)

OREA ★ D21 84752 C/48 ★DT 3016-999
Strengthening and revitalising brittle finger nails - using an inorganic or organic salt of benzyl-2 thio:ethylamine
L'OREAL SA 03.05.79-FR-011115
E14 (20.11.80) A61k-07/04
Brittle and damaged nails can be strenthened and revitalised by the use of at least one salt (I) of an inorganic or organic acid with benzyl-2-thioethylamine of formula C_6H_5-CH_2-S-CH_2-CH_2-NH_2 (II).

The treated nails are stronger and have a healthier appearance. 2.5.80 as 016999(18pp1401)

LARS/ ★ D21 84765 C/48 ★DT 3017-22
Skin-protective coating formation system - uses soluble alginat acid salt with lipid crystals and calcium salt
LARSSON V K 08.05.79-SW-004028
A96 (20.11.80) A61k-07/40
The system forms a protective coating on skin or mucous membrane, using an ointment. This contains a soluble alginate acid salt and a watery dispersion of water-attracting lipid crystals. A calcium salt is then applied over the ointment, so as to convert the alginate acid salt into an insoluble calcium salt.

The crystals can be small thin flakes with a monomolecular coating on their main surface, in which polar end groups are aimed outwards towards the crystal surface, to give the water-attracting charcteristics. 6.5.80 as 017221(17pp160)

BEEC D21 30444 A/17 =GB 1579-93
Oil-in-water or water-in-oil skin cosmetic - contg. dispersed polyme or copolymer micro spheres e.g. polyethylene, polystyrene or poly methyl methacrylate
BEECHAM GROUP LTD 14.10.76-GB-042686
*A96 (A13 A14 A17) (26.11.80) *DT2723-682 A61k-07/48*
A skin-care prod. comprises an unpigmented oil-in-water (or water-in-oil) emulsion contg. a non-volatile oil and 60-90 wt.% of water contg. a dispersion of spherical synthetic polymer or copolymer particles of size 5-15 mic-rons in amt. 3-10 wt.%.

Pref. the prod. contains a perfume and no free fatty acid. The (co)polymer particles are polyethylene or cross-linked polystyrene or polymethylmethacrylate microspheres in amt. 3-5 wt.% w.r.t. the compsn., and of size ⩽15 microns.

The prod. may be used as a moisturing cream or lotion on the skin, which is left with a smooth feel. 3.6.77 as (2pp931)

BEEC D21 36589 A/20 =GB 1579-935
Cosmetic oil-in-water emulsion - contains spherical polymer or copolymer particles
BEECHAM GROUP LTD 09.12.76-GB-051372
*A96 (26.11.80) *ZA7703-116 A61k-07/48*
A skin treatment prod. comprises an unpigmented oil-in-water (or water-in-oil) emulsion contg. a cosmetically-acceptable volatile organic oil in amt. 1-30 wt.% w.r.t. the emulsion, and a dispersion of 3-10 wt.% of spherical polymer or copolymer particles of size 5-15 microns.

Pref. the oil is a silicone or silicone glycol and the (co)polymer particles are cross-linked polystyrene or polymethylmethacrylate or polyethylene microspheres. The particles are present in amt. 3-5 wt.% and have a size 5-7 microns, but < 15 microns.

The compsn. has a cream-like or lotion consistency, and imparts a matt effect when applied to the skin. 3.6.77 as (3pp931)

KLEI/ D21 90025 Y/51 =GB 1579-974
Inhibiting development of dental caries - with oral compsns. contg. acid neutralising oligopeptide with arginine residue(s)
KLEINBERG I 18.06.76-US-697538
*B04 (26.11.80) *BE-855-658 A61k-07/16*
Dentifrice mouthwash or foodstuff compsn. contains arginine-contg. oligopeptide (II) capable of releasing arginine (I) in the mouth as pH rise factor. Pref. (II) contains 2-4 aminoacid units. (II) is esp. gly-gly-lys-arg or gly-gly-arg. Concn. of pH rise factor is pref. ⩾0.05 mM esp. ⩾3 mM.

Natural protective function of saliva is augmented when this is diminished by atrophy or other deficiencies of the salivary glands. 17.6.77 as 025507 (3pp936)

UNIL D21 68807 Y/39 =GB 1580-028
Injecting liq. into extruded detergent - partic. for prodn. of cakes of toilet soap with marbled effect
UNILEVER NV 26.03.76-GB-012242
*(26.11.80) *BE-852-705 B29f-03/12*
Liquid is injected into a soap or detergent mass by pass-

ing the mass through two extruders operating in parallel and discharging to a multi-apertured respective area of a pressure plate followed by a common frustoconical extrusion cone. The liquid is delivered into the mass within or immediately downstream of each area.

A partition extends downstream from an unapertured region between the areas and with sides defining with the cone separate compression volumes. The partition pref. terminates within the cone and the volumes join before extrusion. The liquid is pref. of contrasting colour to the mass. 25.3.77 (+ 26.3.76-GB-012242) (5pp1358)

JOHO ★ D21 84943 C/48 ★GB 1580-132

Silver-tin dental amalgam alloy mixt. - comprising irregular and spherical particles giving good condensation property

JOHNSON MATTHEY LTD 13.04.77-GB-015304

M26 (26.11.80) C22c-05/06

A novel particulate dental amalgam alloy mixt. consists of a major amt. of irregularly shaped particles and a minor amt. of spherical particles, the alloy having the compsn. (by wt.) 55-75% Ag, 20-40 % Sn, 0-10% Cu and opt. up to 2% Zn.

Pref. the mixt. contains 55-90 (esp. 60) wt. % irregularly shaped particles. The spherical particles pref. have a size of < 100 (esp. < 75) μ.

The alloy, when reacted with mercury, is used for dental fillings. The amalgam condenses firmly into dental cavities with little or no extrusion, and hardens quickly. 30.5.78 (3pp935)

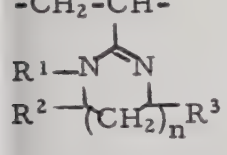
GILL ★ D21 84969 C/48 ★GB 2047-252

Vinyl imidazoline or tetra:hydro:pyrimidine polymers - prepd. from polyacrylonitrile by reaction with an alkylene di:amine using carbon di:oxide as catalyst

GILLETTE CO 19.04.79-GB-013553

A14 (A96) (26.11.80) C08f-08/32

Prodn. of a polymer having repeating units of formula (I) comprises reacting polyacrylonitrile with an amine of formula R^1-NH-CHR^2-$(CH_2)_n$-CHR^3-NH_2 (II) using CO_2 as catalyst (where n is 0 or 1; R^1 to R^3 are each H or 1-4C alkyl). Pref. a stoichiometric excess of (II) is used and reaction is conducted in an inert organic solvent at 80-160°C.



(I)

The starting polymer is acrylonitrile homopolymer or copolymer with a minor amt. of e.g. a (meth)acrylic ester. A pref. polymer is derived from 91% acrylonitrile 7% methyl acrylate and 2% itacomic acid.

The polymers are esp. useful as active ingredients in hair conditioners or for other cosmetic uses. The process avoids undesirable contaminants and special purifn. procedures. 19.4.79 as 013553 (3pp904)

NIUS ★ D21 85257 C/48 ★J5 5133-401

High purity particulate chitin prepn. - by dissolving natural chitin in conc. sulphuric acid and after removing impurities, crystallising it while reducing the concn. of the acid

NIPPON SUISAN KAISHA 05.04.79-JA-040317

A11 B04 (17.10.80) C08b-37/08

Particle chitin (I) is prepd. by dissolving crude chitin naturally available in 45-75% sulphuric acid, removing impurities, crystallising the chitin while adjusting to 30% H_2SO_4 concn. and washing with water to give high purity of particle chitin.

High purity chitin suspension having appropriate granular degree < 150μ, pref. < 50μ can be obtd. in high yield without expensive reagents under mild conditions, although (I) is in use for medicinal or cosmetic applications. 5.4.79 as 040317 (5pp104).

POKK ★ D21 85305 C/48 ★J5 5133-462

Pigment compsn. suitable for cosmetic use - obtd. by reacting clay mineral, di- or trivalent metal (cpd.) and basicity-controlling agent and reacting prod. with organic dye

POLA KASEI KOGYO KK 03.04.79-JA-040139

A60 E37 G01 (G02) (17.10.80) A61k-07/02 C09c-01/42

Pigment is claimed which is produced by reacting (a) clay mineral, (b) di- or trivalent metal and metal compound and, if necessary, (c) a basicity-controlling agent and then by reacting the resulting reaction product with (d) an organic dye.

The pigment has excellent pH resistance, light resistance and dispersing properties and is useful for various kinds of cosmetic preparations, printed packaging material, paint, plastics, etc.. The cosmetic preparations containing the pigment are stable to light but do not dye skin or the substance to be applied.

Pref. (a) are illite series of clay minerals, e.g., sericite, vermiculite, illite, etc.. (b) are, e.g. Al, aluminium chloride, aluminium sulphate, sodium aluminate, etc. (c) are, e.g., alkali metal compound, alkali earth metal cpd., inorganic acid, etc.. 3.4.79 as 040139 (9pp90).

MATS/ D21 18115 V/10 =J8 0042-965

Dentrifice compsns - contg whale skeletal muscle derivs

MATSUMOTO J 26.07.71-JA-055205

*(04.11.80) *J48022-642 +A61k-07/28*

Whale skeletal muscle was defatted with acetone, dried, slurried in water, digested with protease, subsequently denatured, and centrifuged, and the supernatant was concd. and gel-filtered (Sephadex G25) to collect fraction with a strong absorbance at 270 mμ, which gave 6 g. (from 100 g. muscle) of pro-ATPase. A soln. of 0.1 pt. saccharin and 1 pt. perfume in a small amt. of alcohol was mixed with 1 pt. pro-ATPase followed by a mixt. of 95 pts. dibasic Ca phosphate and 1.5 pt. Na lauryl sulphate to give the dentifrice powder. The dentifrices impart oral freshness and improved blood circulation in the gums. 26.7.71 as 055205. A61k 7/28 (4.11.80) MATSUMOTO, J. (3pp) (J48022642)

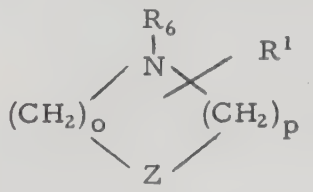
JOHJ D21 80844 B/45 =US 4233-192

Detergent compsns. contg. phospho-betaine(s) or phosphitaine(s) - used esp. in shampoos having good foam volume and low irritation

JOHNSON & JOHNSON 30.11.78-US-965463

*A97 E11 (D25) (11.11.80) *BE-876-057 C11d-03/36 +C11d-07/36*

Detergent compsn. has an active ingredient 1 to 20 wt. % of phosphobetaine of formula $[R^{\oplus}\text{-}Y\text{-}O\text{-}P(=O)(A)\text{-}B]X_z^{\ominus}$, where A is O-, OM or -O-Y-R^+; B is O- or OM'; $X^{\ominus}$ is an anion; z is 0 to 2, while only one of A and B can be O-. R is either an amidoanine reactant moiety of formula $[R\text{-}C(=O)NR^2\text{-}(CH_2)_n\text{-}NR^3R^4]^{\oplus}$ (where R' is alkyl, alkenyl, alkoxy or hydroxyalkyl of 5 to 22C or ≤ 20C (alk)aryl. R^2 is H, (hydroxy) alkyl, alkenyl or cycloalkyl of up to 6C, or polyoxyalkene of up to 10C. R^3 and R^4 are (hydroxy)alkyl or carboxyalkyl of up to 6C or polyoxyalkylene of up to 10C. Additionally R^3 and R^4 together with N will become an N heterocycle structure in which the Y radical is bonded to the heterocycle ring at other than the N of the R moiety, n is 2 to 12), or R is an N-heterocyclic radical of formula (I) (where Z is N, S or O; o is an integer 0-3; p is 1 to 3 and o+p is 3 to 4; R_6 is 2 to 6C alkyl; Y is up to 12C alkylene. M and M' are (a) H (b) (hydroxy)alkyl of up to 6C or polyhydroxyalkyl of up to 10C, glycerol, cycloalkyl or up to 6C, (alk)aryl of up to 10C or (c) a salt radical selected from alkali(ne earth) metals or mono, di triethanolamine) or where the detergent active ingredient is a phosphitaine of formula $[R^{\oplus}\text{-}Y\text{-}O\text{-}P(=O)(O^-)\text{-}H]$.



(I)

30.11.78 as 965463 (10pp937)

OREA D21 59142 W/36 =US 4233-241

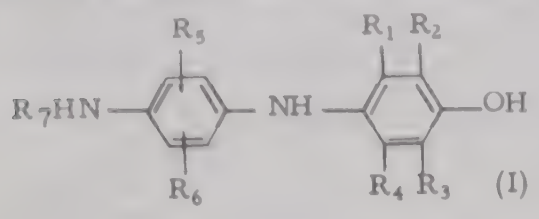
N-alkyl-monosubstd. diphenylamines from indoanilines - useful for dyeing keratin fibres, esp. human hair

L'OREAL SA 22.02.74-LU-069457

*A96 E24 (E23) (11.11.80) *DT2507-569 C07c-103/37*

Diphenylamine cpds. of formula (I) are new. In (I) R_1 and

R_4 are each H, halogen, 1-6C alkyl, 1-6C alkoxy, amino opt. subst. by 1-6C (hydroxy)alkylamino, or 2-7C acylamino, with ⩾1 of R_1 and R_6 being acylamino, R_2 and R_3 are each H, halogen, 1-6C alkoxy, 1-6C alkyl or 2-7C acylamino. R_5 and R_6 are each H, halogen, 1-6C alkyl, or 1-6C alkoxy, with the proviso that both R_5 and R_6 are other than H ⩾1 of R_5 and R_6 occupies a position meta to $-NHR_7$. R_7 is 1-6C hydroxyalkyl, 1-6C aminoalkyl, mono-alkyl-aminoalkyl where each alkyl has 1-6C or dialkylamino -alkyl.



(I)

(I) is used in a compsn. for dyeing keratinic fibres, esp. human hair. A specific cpd. is 3,5-dimethyl-4-hydroxy-6-acetylamino-3'-methoxy-4'-N(-B-hydroxyethyl)amine. 19.4.79 as 031634 Div. ex 4008043 (+21.2.75; 19.11.76; 9.3.78-US-551627; 743497; 884817)(13pp964)

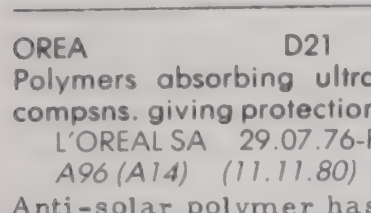
OREA D21 82954 Y/47 =US 4233-430

Polymers absorbing ultraviolet radiation - for use in cosmetic compsns. giving protection from the sun

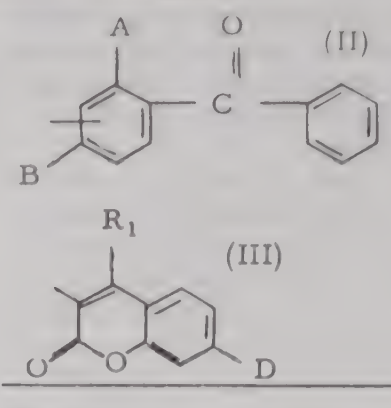
L'OREAL SA 29.07.76-FR-023174 (26.06.73-FR-023254)

*A96 (A14) (11.11.80) *BE-854-748 A61k-07/44*

Anti-solar polymer has, in the macromolecular chain, 10-100 wt.% of units of formula (I) and 90-0 wt.% unsatd. mon-omer. In (I), F is a gp. of form-ula (II) (where A and B are both H or A is OH and B is OCH_3), a gp. (III) (where D is OR, R being H or CH_3, and R_1 is CH_3 or CH_3, or D is H and R_1 is H), 2-triazinyl-phenyl, 2,3,5-tribromo-4-hydroxy phenyl, 2-methoxy-3-hydroxy-5-formyl-phenyl, etc.



(I)



(II) (III)

The polymer has a molecular wt. of 2000-1000000 and absorbs light of wavelength 280-315 nm. The polymer is used in cosmetic compsns. 1.5.79 as 035009 C.i.p. 3980617 (+27.6.73, 18.8.76 -US -374058; 715565)(13pp982)

DENT- ★ D21 86329 C/48 ★WP 8002-371

Plaque-dissolving tooth-paste - contg. terpene hydrocarbon as solubilised gel., emulsifier, surfactant, thickener, and water

DENTAL THERAPEUTICS (WAHL) 03.05.79-SW-003856

(13.11.80) A61k-07/16

D/S: N(AU, BR, DK, JA, NO, US).

Toothpaste contains (by wt.): 1-10% of a halogen-free hydrocarbon (I); 1-10% emulsifier (II); 1-5% surfactant (III); 0.5-5% thickener (IV); H_2O (to 100%); and opt. ⩾ 30% humectant together with conventional abrasives, anti-caries agents, and flavours, etc.

The (I) and (II) contents are of the same order of magnitude, while (I) is solubilized and evenly distributed as a gel.

The toothpaste effectively removes plaque from teeth not by the action of hard brushing but by simple dissol-ution.

29.4.80 as SW0127 (12pp478).

(E) ISR: SW-316262; FR2194411; DT2142528.

See Also

D13 DS 2424712	D13 US 4233288	D23 DS 2043341
D23 J5 5133303	D23 J5 5133304	D23 J5 5133305
D23 J5 5133306	D23 US 4233226	

D22: BANDAGES; DRESSINGS

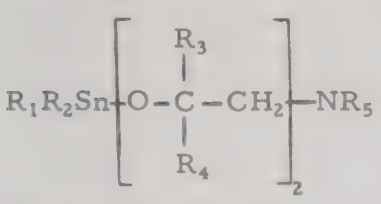
SCHD D22 96287 X/52 =DS 2610-931

Biocidal compsns. contg. (new) diptycho tin cpds. - e.g. 1,1-diisobutyl diptycho oxazastannolidine, useful as disinfectants, textile finishes etc.

SCHERING AG 16.03.76-DT-610931 (14.06.75-DT-526711)

*A60 C01 F06 +P34 P63 (20.11.80) *BE-842-937 A01n-55/04 C07f-07/22 C08k-05/57 C09d-05/14*

Bactericides and fungicides of the parent patent are modified by a content of diorganotin cpd(s). (I). In the formula, R_1 and R_2 are straight, cyclic or branched, opt. unsatd. 1-10C alkyl or aromatic resi due; R_3 and R_4 are H or 1-10C alkyl, whereby R_3 and R_4 can be the same or in (R_3 and R_4) contain a double-bonded O; and R_5 is H, or straight, branched or cyclic, opt. unsatd. 1-10C alkyl, or an opt. subst. aromatic residue; with the proviso that R_{3-5} are not simultaneously H when R_1 and R_2 are opt. branched 2-6C alkyl or phenyl.



(I)

(I) are used as disinfectants, or bactericidal and fungicidal finishing of wood, plastics and textiles, or as painting biocides. Specific (I) (21 cpds.) are claimed including 1,15-trimethyl-diptych-oxastannolidine, 1,1-diisobutyl-5-(methyl, phenyl, m or p-tolyl, cyclohexyl)-diptych-oxa-stannolidine. 16.3.76 as 610931. Add. to 2526711. (6pp)

RUGG- D22 94630 X/51 =DS 2623-368

Tampon compressing system - produces greater compression forces on the periphery than on the core of an absorbent wadding tampon

RUGGLI K AG 30.05.75-CH-006973

*F04 P32 +P71 (20.11.80) *DT2623-368 A61f-13/20*

A machine for the prodn. of tampons by compression of a cylindrical wad of fibres has a series of primary presser jaws arranged concentrically around a central axis, each having two press surfaces which meet at an ange lying parallel to the axis of the tampon, and a series of secondary presser jaws alternating with the primary jaws, each with a single, concave press surface parallel to the axis. Consolidation of the tampon is a two-stage process which produces an inhomogeneous cross-sectional density distribution wherein higher-density regions are distributed around the circumference of the tampon to improve longitudinal rigidity, which reduces kinking during insertion. 25.5.76 as 623368. (11pp1411)

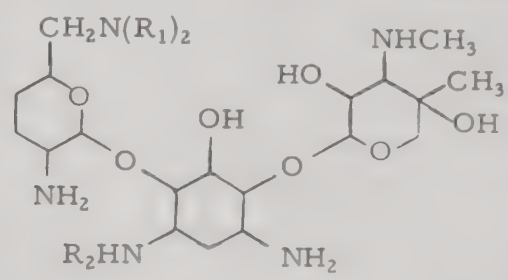
KYOW D22 89953 A/50 =DS 2821-948

Antibacterial amino-glycoside antibiotics XK-62-3 XK-62-4 - produced by Micromonospora sagamiensis var. nonreducans

KYOWA HAKKO KOGYO 13.07.77-JA-083038 (19.05.77-JA-057827)

*B03 E13 (20.11.80) *DT2821-948 A61k-31/71 C07h-15/22*

Antibiotics are claimed of formula (I), and designated XK-62-3 (where R_1 is H and R_2 is methyl) and XK-62-4 (where R_1 is methyl and R_2 is H), together with their salts with acids. Pref. (I) are prepd. by cultivating Micromonospora sagameinis var. nonreducans NRRL 11101 in a neutral culture liq. for 2-15 days at 25-40°C.



(I)

(I) have broad spectrum activity and are suitable for cleaning and sterilising glass laboratory equipment and surgical instruments. They are also used for treating bacterial infections. 19.5.78 as 821948. (9pp913)

APl- ★ D22 84524 C/48 ★DT 2914-075
adiation system for sterilising cardboard milk cartons - includes hanging position of UV radiator inside carton during advance on onveyor
PAPIER KUNSTSTOFF 07.04.79-DT-914075
S05 X25 P34 Q31 (20.11.80) A61l-02/10 B65b-55/08
ystem for sterilising interiors of containers using radiaion, can be used for cardboard cartons before being filled ith milk as they are advanced on a conveyor. The UV adiators are raised and lowered inside the empty cartons nd also moved sequentially so as to subject different parts f the interior to max. radiation.
Conveyor may be operated in steps and the radiators an be moved continuously or in steps. This can be carried ut in a sequence which also includes hot sterilisation sing steam or IR radiation. The IR radiators can be noved in the same manner as the UV radiators. 7. 4. 79 s 914075(10pp349)

HAS ★ D22 84716 C/48 ★DT 3011-714
terilisation or disinfection of appts. e.g. dairy equipment - by reating with a 1-amino-3-alkoxy-2-propanol in water at normal ressure at 30-120 degrees (NL 18.11.80)
PHARMASCIENCE LABS 16.05.79-FR-012403
E16 (20.11.80) A01n-33/08
n a new process for the sterilization or disinfection of pparatus using hydroxyamines, the appts. is treated at 0-120°C and atmospheric pressure with an aqueous soluion contg. ≤ 0. 01% of a cpd. of formula (I): $ROCH_2CH(OH)CH_2NH_2$) (where R is 5-14C n-alkyl), in the orm of the base or of a salt.
The sterilization/disinfection temp. is pref. 60-100°C esp. 70-90°C), and the treatment time is pref. 1-60 (esp. 0-30) mins. (I) is pref. in the form of a 0. 5-2% soln. naving a pH of 7-8. In a partic. pref. procedure, the apparatus is treated with a ca. 1% solution of (I) for ca 20 mins. at ca 80°C.
(I) reduce the resistance of bacterial spores to the sporicidal effects of moist heat, so that sterilisation or disinfection can be carried out at relatively low temps. and at atmospheric pressure in the presence of (I). (I) are non-toxic and non-irritant to skin and mucous membranes, and have only a slight corrosive effect on metals and plastics. 26. 3. 80 as 011714. Add to 2606106(17pp280)

NISI/ ★ D22 84759 C/48 ★DT 3017-077
Dental tool sterilisation appliance - for use in two positions for chemical or thermal sterilisation
NISII A 08.05.79-IT-048978
P34 (20.11.80) A61l-02
A sterilisation appliance for dental surgery tools, esp. needles for the tooth root treatment (excipation) consists of a cup-shaped container with a female thread at the rim which is undercut down to the bottom. An insert in the shape of an inverted cup has in the thick top the bores to take the handles and shanks of the dental tools. Its cylindrical walls are covered by holes. A male thread is provided on the top and another at the bottom. A third male thread on top of the first allows a cap to be screwed over.
When all three parts are screwed together and a chemical tablet is included, the tools can be sterilised chemically; with the bottom thread of the insert engaged in the female thread of the container, it is ready for thermal sterilization. 3. 5. 80 as 017077(12pp39)

RAVE/ ★ D22 84890 C/48 ★FR 2448-869
Baby diaper comprises plastic bag of cellulose wadding - with opening for urine sealed textile covers
RAVEGNINI P 16.02.79-FR-007211
F07 P21 (17.10.80) A41b-13/02
A baby's diaper comprises cellulose wadding contained in a plastic bag or envelope, which presents a rectangular opening on one side, towards the baby, to receive the urine. The plastic envelope is covered with a sheet of cotton so as not to harm the baby's skin. The assembly is then contained in a textile netting to hold it together. The cotton sheet and the textile netting are sealed to the shape of the openings with a watertight seal, to prevent the passage of urine onto the diaper covers. 16.2.79 as 007211 (2pp1359).

ANIO- ★ D22 84899 C/48 ★FR 2448-930
Atomising liq. into conditioned air for laboratories etc. - using compressed air to inject into ducted air current flowing at over 15m/s
ANIOS SARL LAB 19.02.79-FR-004771
J04 P34 Q74 (17.10.80) A61l-09/14 B01f-03/04 B01f-05/18 F24f-06/14
Process and installation for atomising a liq. into a gas, uses an atomiser which is supplied with gas and a liq. under pressure. A programmed controller allows liq. to be supplied to the atomiser only when the atomiser is already being supplied with gas. The gas and liq. can both be at the same pressure or at different pressures. Atomisation can take place into a stationary atmos. of gas or into a moving current of gas.
Filtered, pref. sterile, air is supplied pref. directly to the atomiser as well as to two pressure vessels contg. liq. which is displaced from one vessel under pressure to the atomiser. Controller actuates solenoid valves so that the gas is supplied to the atomiser before liq. and continues briefly after liq. supply has been stopped. Atomiser is pref. located in a duct carrying conditioned air at a flow rate >15m/s.
Used to spray a liq. e.g. water and/or disinfectant, into sterile, conditioned air for laboratories and surgical operating theatres, etc. Atomiser functions satisfactorily in ducted air currents with flow rates >10m/s. which is the top limit for rotary sprays. 19.2.79 as 004771 (10pp448).

TEMC- D22 81356 Y/46 =GB 1579-860
Open cell acetalised polyvinyl alcohol foam bandage - waterproofed by impregnating with melamine, silicone or acrylate resins or by chemical modification
TEMCA CHEM UNION GM 28.04.76-DT-618613
*A96 P34 +P42 (A14) (26.11.80) *DT2618-613 C08j-09/36 +B05d-05*
A surgical dressing material comprises an open-cell acetalised PVA foam to which has been imparted hydrophobic properties.
The process comprises either depositing an hydrophobe on the open pore surfaces of the foam inamt. 2-8 wt. % of hydrophobe w. r. t. the foam; or by chemically modifying the molecular of the foam by introducing 5-20C alkyl, aryl, or aryl-alkyl hydrophobic gps. Pref. the hydrophobe is a silicone-, melamine-, acrylic- or fluorinated acrylic resin.
The dressing material is extremely hard and exhibits a good bending strength in the dry state, but soft and readily movable on absorption of water. The prod. has an improved drying time without impairment of its hardness or rigidity. 25. 4. 77 as 017181 (4pp931)

TAKC ★ D22 84934 C/48 ★GB 1580-026
Tacky mat contg. bactericide also acting as sec. tackifier - reduces amt. of plasticiser needed in resin impregnant and allows wider range of such resin to be used
TAK CHEMICALS LTD 18.03.76-GB-010845
A84 E14 F06 P34 (26.11.80) A61l-02/16
Tacky mat is formed from a woven or non-woven fabric or an impervious plastic. Base material is impregnated with an effective amt. of non-drying tacky substance (I) and bactericide (II). Pref. there is ≥1 wt. % (II) based on the total wt. of impregnant, and (II) is a liq. chlorinated phenol, esp. monochloro-o-phenyl phenol (IIa). Esp. pref. there is 15-20 wt. % (II) based on solid content of impregnant. (I) is pref. externally plasticised resin.
Mat is useful in hospitals, etc. (II) also contributes to the tackiness thus reducing the amt. of plasticiser reqd. in (I) and allowing the use of internally plasticised resins of insufficient tackiness if used alone. 18. 3. 76 as 010845 (4pp904)

OSAO- ★ D22 84965 C/48 ★GB 2047-217
Deodorisation of waste gas by contact with hypochlorite soln. - and nickel peroxide catalyst, used to remove hydrogen sulphide, mercaptan, di:methyl sulphide, ammonia, alcohol, ketone etc.
OSAKA OXYGEN IND 23.04.79-JA-050159
A97 J01 (26.11.80) B01d-53/34

Waste gas is passed upwards through a column down which a soln. of Na hypochlorite having a pH of 7.5-11.0 is flowing, in the presence of a Ni peroxide catalyst.

In the appts., NaOH soln. is injected into the NaOCl soln. stream as reqd. to adjust the pH. The soln. may be recirculated and fresh NaOCl and NaOH soln. added as required, as a waste stream is drawn off at the column bottom. A bed of non-catalytic filler may be placed over the catalyst.

The process is used to remove pollutants from exhaust gases, waste gas from sewage treatment etc. The most economical reaction of H_2S with hypochlorite is favoured. 8.10.79 as 034897 (10pp955)

NISY ★ D22 85170 C/48 ★J5 5132-713
PVA-based, high absorbent fibrous material prodn. - by drawing, splitting and then heating a sheet of PVA and saponified unsatd. di:carboxylic acid vinyl ester copolymer
NIPPON SYNTH CHEM IND 30.03.79-JA-038666
A35 F01 (A14) (15.10.80) D01f-06/50

PVA-based material is produced by (1) drawing and subsequently splitting a sheet (or film or strand) made from a mixt. composed of (a) 5-95 wt.% of PVA and (b) 95-5 wt.% of the saponification prod. derived from a copolymer composed of ⩾1 unsatd. dicarboxylic acid and/or its deriv. (excepting dialkyl ester) and vinyl ester; and (2) heat-treating the material before or after splitting into fibre.

Material is applicable to sanitary use, or agricultural use, etc., as absorbent or water-retaining medium.

In an example, 50 pts.wt. of 95 mol.% saponified monomethylmaleate (5 mol.%)/vinyl-acetate (95 mol.%) copolymer and 50 pts. wt. of PVA (88.5 mol.% saponified, polymerisation degree 1700) was dissolved in water to prepare 20 wt.% aq. soln. The dope was cast at 90-95°C into 70 μ-thick film, and then dried at 105°C. After drawing in one direction at 140°C to 5.5 times its original length, the film was heat-treated at 140°C for 30 mins., then split by friction into 1-30 denier fibres. 0.3 g of the resulting fibrous material absorbs 10 g of physiological saline soln. in 1 min. 30.3.79 as 038666(4pp173)

AGEN ★ D22 85214 C/48 ★J5 5133-249
Absorbent for water, urine, blood etc. - comprises mixt. of cotton-like material contg. lignin
AGENCY OF IND SCI TECH 04.04.79-JA-040169
F09 P21 P32 (16.10.80) A41b-13/02 A61f-13/18

Water absorbent comprises a mixt. of (a) cotton-like substance A contg. ⩾5 wt.% lignin, obtd. by treatment of pulp bagasse, and (b) a cotton fibre B contg. ⩽5 wt.% lignin in a A : B proportion of 95 : 5 to 20 : 80.

The water absorbent, having excellent absorbency for water, urine, blood, and other various liquids, as well as excellent water retention, esp. under pressure, used in sanitary materials including diapers, sanitary napkins, etc. 4.4.79 as 040169 (3pp117).

JAPC ★ D22 85266 C/48 ★J5 5133-413
Prodn. of crosslinked polymer of acrylic acid alkali metal salt - by copolymerising acrylate monomer and crosslinking monomer in presence of water soluble and/or water-dispersing surfactant
NIPPON SHOKUBAI KAGAKU 06.04.79-JA-041125
A14 C03 (17.10.80) C08f-02/10 C08f-08/44 C08f-220/06

Prodn. comprises copolymerising mixt. of (A) 100 pts. wt. acrylate monomer consisting of 0 - 50 mol% acrylic acid and 50 - 100 mol% acrylic acid alkali metal salt; and (B) 0.001 - 5 pts.wt. cross-linking monomer at concn. ⩾25 wt.% in the presence of water-soluble and/or water-dispersing surfactant.

Quantity of surfactant is pref. 0.01 - 10 pts.wt. : 100 pts.wt. of monomer (A). Surfactant pref. is nonionic surfactant having HLB ⩾7. Alkali metal is pref. Na. Gel-state water-contg. polymer obtd. is pref. heated and dried to obtain cross-linking polymer. More pref., the water-contg. polymer is crushed so that surface area per unit vol. becomes ⩾9 cm^2/cm^3 and heated and dried by hot air at 100 - 230°C.

Cross-linking polymer with good absorption properties and viscous-increasing properties safe to human skin is obtd. by simple process without using organic solvent. Polymer is useful as absorbing material for paper diaper, various viscous-increasing agents, emulsification stabiliser and soil-improving agent, etc.. 6.4.79 as 041125 (9pp78).

MITO ★ D22 85516 C/48 ★J5 5134-628
Control of deodorising device - by removing samples from points near inlet and outlet, determining gas concn. and calculating concn. ratio
MITSUBISHI HEAVY IND KK 07.04.79-JA-041555
J01 (20.10.80) B01d-53/04

Method for controlling a deodorising device having a column charged with adsorbant to form a bed for deodorising a malodouring gas is claimed. Object is to control the device to use the adsorbant completely, irrespective of malodour components change, without discharging them to atmos.. Two samples of gas are taken from two points: the first point at the inlet of the bed and second in the bed but near its outlet. Concn. of the samples are calculated and compared. If the ratio of the concn. of the sample at the second point to that at the first point reaches 0.5, alarm is produced and time for adsorbing gas component is estimated for the device. 4.7.79 as 041555 (6pp26).

HITA ★ D22 85518 C/48 ★J5 5134-630
Treating malodorous gas - by washing with alkali and ozone-oxidn.
HITACHI KK 06.04.79-JA-040904
E36 (20.10.80) B01d-53/34

Process comprises (a) washing malodorous gas with alkali; (b) oxidising with ozone; and (c) washing with waste soln. discharged fromthe alkali-washing process.

Complete removal of malodorous gas and waste O_3 is facilitated. In an example, gas contg. 10 ppm of methyl mercaptan and methyl sulphide was contacted with 1% aq. NaOH soln. at liq./gas = 2kg/kg in a packed tower. To the gas washed with alkali was added ozonised air such that the concn. of O_3 is 15 ppm, and afterwards, the gas treated with O_3 was washed with alkali waste soln., discharged from the packed tower. The concns. of H_2S, methyl mercaptan and methyl sulphide in the gas treated were respectively <0.1 ppm. The concn. of O_3 in the same gas was < 0.1 ppm. 6.4.79 as 040904 (3pp96).

KURS ★ D22 85572 C/48 ★J8 0042-854
Air filter - comprising active charcoal powder supported on nonwoven fabric of crimped fibres using emulsion adhesive
KURARAY KK 15.04.69-JA-029120
A88 J01 (01.11.80) B01d-39/14 B01d-53/02 B01j-20/28

Air filter comprises 40-200 pts.wt. active charcoal powder with surface pore size of 10-100Å, supported on 100 pts. wt. nonwoven fabric of crimped fibres by means of emulsion adhesive with particle size of 0.01-1μ.

Used for cleaning air in office, living room, passenger car, underground centre, computer room, etc. The filter has excellent balance of adsorption capacity and air permeability. It has high dimensional stability and can be cut into any size.

In an example, into 100 pts.wt. acrylic emulsion (solid content of 5wt.%, particle size of 0.1μ) are dispersed 5 pts. wt. active charcoal powder (surface pore size of 15-30Å); PVA nonwoven fabric (100 g./m^2) is immersed in the dispersion and dried 15 mins. at 160°C; the filter material obtd. carries 160 pts.wt. active charcoal per 100 pts.wt. fabric. 15.4.69 as 029120. B01j 20/28; B01d 39/14, 53/02 (1.11.80) KURARAY KK (4pp83)

ANT-★ D22 C/48 ★SF 7900-577
Sterilising device for bottles, etc. in closed vessels
OY SANTASALO-SOHLBE 20.02.79-SF-000577
P34 (31.10.80) A61l

ABO- D22 69198 Y/39 =SU-728-690
Automatically venting steam steriliser - with heat expansible valve element closing working chamber when all air is vented
LABOR MUSZEPIPARI 20.03.76-HU-LA0886
*P34 (15.04.80) *DT2708-944 A61l-03*

An automatic steriliser for instruments such as injection syringes comprises a working chamber and a lower water evapn chamber with a heater. A vent valve is connected to the lower chamber; its housing includes a heat expansible valve element of smaller dia than the housing which carries a pin to throttle or close a valve seat.

Arrangement automatically vents the air from the steriliser but closes it when the starting-up period is over and pure steam is present. At the end of sterilisation the working chamber is re-connected to atmos as the temp. drops.

Nad, L., Bul. 14/15.4.80. 16.3.77. as460654(2pp).

ROSU=★ D22 85975 C/48 ★SU-728-825
Preserved food sterilisation autoclave - has baskets grouped round central perforated pipe and separated from body wall by peripheral perforated pipes
ROST SUPPLY MACH 02.11.76-SU-416868
(26.04.80) A23l-03/10

Autoclave for heat-processing products in baskets, for sterilisation of preserves and fish conserves in different working media, has cylindrical body with sealed lid and feeding means for the media linked to a manifold. Treatment quality is increased, with creation of a uniform temperature field and improved circulation of the media, by fitting perforated vertical pipes, connecting them to the manifold, and arranging them arround the periphery of the body with gap between them and the wall. The top ends of the pipes are bent over and fastened to the body. The holes in the pipes are staggered so that the jets of medium do not intersect the baskets.

Arytyunov, R.A., Bobritskii, A.D., Cheishvili, G.Ya., Bul. 15/25.4.80. 2.11.76. as416868(5pp29).

UNIL D22 18449 Y/11 =US 4232-674
Fluid absorbing article with absorbent gel stripes - sepd. by capillary crepe areas for better spreadability
LEVER BROTHERS CO 22.08.75-GB-034974
*A96 F07 P21 P32 +P34 P73 (11.11.80) *DT2636-899 A61f-13/16*

Liq. absorbent device such as a diaper, sanitary towel or tampon comprises an absorbent layer consisting of (a) ⩾1 carrier sheet of non-absorbent material which causes capillary flow of a liq. along the sheet when it is contacted with the liq., carrying (b) a deposit of absorbent materials applied to the carrier sheet in a predetermined pattern of stripes. The strips leave uncovered areas of the carrier sheet to provide channels for the capillary flow of the liq. from satd. to unsatd. areas of the absorbent material.

Pref. the absorbent material is a water-swellable gel-forming polymer, esp. a crosslinked carboxyalkylated starch deriv. The device has enhanced rate of liq. absorption. 5.12.78 as 966692 (+16.8.76 -US-714466)(7pp393)

NOUN D22 58767 C/34 =US 4233-263
Maintaining bacterial sterility in urine collection bags - comprises using aq. hydrogen per:oxide soln.
NORTHWESTERN UNIV 02.04.79-US-025753
*P34 +P31 P32 (11.11.80) *BE-882-567 A61l-02/18 +A01n-59 A61b-19 A61m-27*

Bacterial sterility is maintained in the urine drainage bag of a closed urinary drainage syst. such that urine is collected in the bag for several hours then emptied.

The process comprises adding 15-60 ml of an aq. soln. of hydrogen peroxide contg. 0.025-0.035 g.l^{-1} of H_2O_2 to the bag before each collection period. Pref. the urine is collected for 6-10 hrs. before emptying and 30 ml of 3% H_2O_2 (U.S.P) is added.

Urine drainage bags are esp. connected to indwelling catheters. The method protects both the bladder and the hospital environment from bacterial contamination.
2.4.79 as 025753 (3pp931)

TETR D22 75582 B/42 =US 4233-271
Packaging strip sterilising device - with revolving brush in fluid tank for wetting and cleaning action (NL 9.10.79)
TETRA PAK INT AB 05.04.78-SW-003828
*Q31 +P34 (11.11.80) *DT2913-187 B65b-55/10 +A61l-02/18*

Appts. for sterilising a packing material web for forming into containers includes a vessel for sterilising liquid with an outer wall opening, and a rotary brush offset from the vessel axis towards the opening side so that the brush dips into liquid held in the opposite side of the vessel and delivers it to a web passing across the opening.

The vessel is pref. cylindrical and the brush is axially parallel to the vessel. The web is pref. passed over a cylindrical roller located within the opening in a direction opposite to the brush rotational direction. A seal is pref. formed between the opening and the web. 2.4.79 as 026058(5pp)

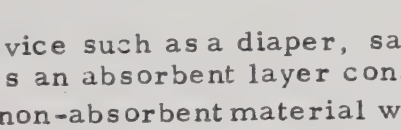
MERE D22 34958 A/20 =US 4233-287
Compsn. contg. polyacrylate or polymethacrylate and antibiotic - with aminoacid added to control antibiotic release, esp. useful as cements in bone surgery
MERCK PATENT GMBH 18.06.77-DT-727535 (11.11.76-DT-651441)
*A96 B05 G03 +P32 P34 (11.11.80) *BE-860-708 A61f-13 A61k-09/70 A61k-31/78 A61l-15/03*

Novel pharmaceutical compsns. are in the form of individual particles of a base (partially) connected together by fil-aments or wires. The base is of polymethacrylate and/or polyacrylate. The particles also contain antimicrobial amounts of ⩾1 antibiotic and an antibiotic liberating agent. This agent is ⩾1 amino acid. Pref. the agent is Gly, Ala, Thr, Val, Ser, Hyp and/or Pro, esp. at 0.3-5 wt.% (w.r.t. polymer).

Compsns. have reproducible antibiotic release props. 9.10.79 as 082455 (+26.10.77-US-845703)(5pp974)

STAU ★ D22 86239 C/48 ★US 4233-318
1-Alkyl-S-aminoalkyl-isothiouronium di:halide(s) - useful as biocides esp. bactericides and fungicides
STAUFFER CHEMICAL CO 22.03.79-US-022755 (15.07.77-US-815975)
C03 E19 (11.11.80) A01n-43/40 A01n-47/42 C07c-123 C07d-213/74

Isothiourea derivs. of formula (I) are new:



(I)

In (I), R is 5-20C alkyl; R_2 is H or 1-10C alkyl; R_5 is 2-6C alkylene; R_3 and R_4 are H or 1-4C alkyl; and R_1 is (a) 1-20C alkyl or 2-6C alkenyl, when R_3=R_4=H, or (b) benzyl, halobenzyl or α-methylbenzyl, when R_3 and R_4 are H or alkyl.

(I) are biocides, esp. bactericides and fungicides e.g. for foliar use. 22.3.79 as 022755 (10pp1248)

JOHJ ★ D22 86250 C/48 ★US 4233-345
Reinforcement of cellulosic air-laid pads - by spraying with sodium hydroxide soln. and an aq. dispersion of acrylic acid polymer
JOHNSON & JOHNSON 23.04.79-US-032181 (18.09.78-US-943277)
A82 F04 P42 (A96) (11.11.80) B05d-03

The surface of a high loft, low density (0.05 to 0.20 g/cc) air laid pad, consisting mostly of short length wood pulp fibres, is pretreated with a light spray, at a level from about 2 to 10 cc sq. metre and not higher than about 3% of the wt. per unit area of the pad, of a soln. of sodium hydroxide. The interior of the pad is kept dry. An aqueous dispersion of a cross-linked acrylic acid polymer having an equivalent wt. of 76 per free acid hydrogen and average molecular wt. of about 4,000,000 is applied to the pre-treated surface, causing coagulation of the dispersion, so limiting its penetration into the pad. The pad is then dried.

The reinforced pads are used for baby napkins, sanitary napkins or cushioning pads. The method provides reinforcement of the air laid pad so that high loft and absorp-tive capacity are maintained without having to use expen-

sive methods such as enclosing the pad in creped paper. 23.4.79 as 032181 (3pp1473)

CLGE ★ D22 86257 C/48 ★US 4233-360
Laminated burn dressing consisting of foam and film - derived from fibrous atelopeptide collagen
COLLAGEN CORP 25.09.78-US-945723 (22.11.75-US-624678)
A96 B04 P34 P73 (11.11.80) A61l-15/04 B32b-05/26 C08l-89/06

An atelopeptide collagen (A) burn dressing, consisting of a laminate of a foam and a film, is made by first lyophilising a dispersion of (A) fibres to form a foam, which is then crosslinked. The foam is then treated with an aq. dispersion of crosslinked and non-crosslinked (A) and the resulting laminate dehydrated.

The initial dispersion of (A) is made by slow desolubilization of (A) from its aq. soln. while applying a mild shear force giving fibres of mean diam. $\geq$500 mm, having a rope-like appearance in a scanning electron micrograph.

This is a Division of 4140537 (17818B) which described as emulsions of (A) fibres.

Unlike native collagen (A) is not antigenic. 25.9.78 as 945723 Div. ex 4140537 (+24.11.76-US-744536)(7pp1251)

See Also

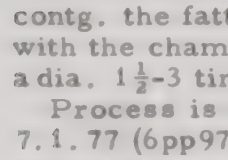
D13 GB 1579799 D14 GB 1580140

D23: OILS; FATS; WAXES

TECN- ★ D23 C/48 ★BR 7902-751
Oil-extraction by expansion of flocculated matter
TECNAL PROJ ASSESS 07.05.79-BR-002751
(11.11.80) C11b-01/04

GIVA D23 18899 S/10 =DS 2043-341
New mercapto-or alkylthio terpnoids
GIVAUDAN L & CIE SA 10.09.69-CH-013748
*E15 (D13 D21 D25 E17) (20.11.80) *BE-755-504 C11b-09*

The use is claimed of p-methane-8-thiol-3-one (I) as perfume. Cpd. (I) has the formula -



(I)

and may be prepd. by reaction of hydrogen sulphide with pulegone or isopulegone. Cpd. (I) is useful as an ingredient of fruit aromas e.g. blackcurrent, for yoghurt and sweets, or for perfumes, detergents, soaps, etc. 1.9.70 as 043341. (3pp068)

BIOT= ★ D23 84864 C/48 ★FR 2448-567
Rose essence prepn. by enzyme treatment of flowers - then hydrodistn. using enzymes prepd. from Trichoderma or Geotrichum
BIOTECH RES INST 07.02.79-SU-724414
(D16) (10.10.80) C11b-09/02 C12p-07/02

Process comprises treating fresh rose flowers or waste material from a previous extn., in an aq. medium using a material/water rati of 1:1.5-1:3 at 40-45°C for 2-4 hrs. with enzymatic prepns. which are biosynthesis prods. of microorganisms. Trichoderma or Geotrichum in amts. taken separately or together of 0.1-5% based on the material. Enzyme prepns. contain β-glucoside hydrolyases active to the rose glucosides and enzymes hydrolysing the plant structural polysaccharides. Essence is then isolated by hydrodistillation.

Essence is used partic. in the food, pharmaceutical and perfume industries. Process improves the yield and the quality w.r.t. the desired constituents. It is also simpler and shorter than previously proposed processes. 6.2.80 as 002613 (18pp597).

UNIL D23 46994 Y/27 =GB 1580-181
Sepg. solid particles from fats, esp. in fractional crystallisation - using uniform agitation until agglomeration takes place
UNILEVER LTD 08.01.76-GB-000651
*(26.11.80) *BE-850-088 C11b-07 + C07c-51/42*

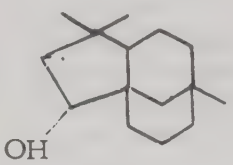
Solid particulate matter is separated from liq. fatty material in which it is dispersed by subjecting the mixt. to conditions of homogeneous agitation until aggregation of the particles takes place and then sepg. the agglomerated particles.

Pref. the homogeneous agitation is provided in a chamber contg. the fatty material by a cylindrical stirrer concentric with the chamber. Pref. the chamber is cylindrical and has a dia. $1\frac{1}{2}$-3 times that of the stirrer.

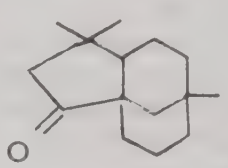
Process is e.g. for use in the prepn. of margarine. 7.1.77 (6pp974)

ALBR ★ D23 84946 C/48 ★GB 1580-184
Perfume compsns. contg. clovanol and/or clovanone - with patchouli and cedar wood overtones to woody notes
BUSH BOAKE ALLEN 04.03.76-GB-008655
E15 (26.11.80) A61k-07/46

Compounded perfumary compsns. contain several odoriferous ingredients (III) together with clovanol (I) and/or clovanone (II):



(I)



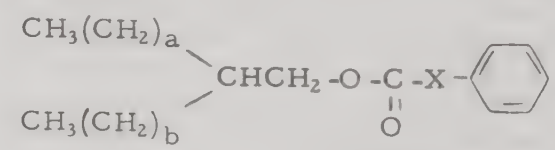
(II)

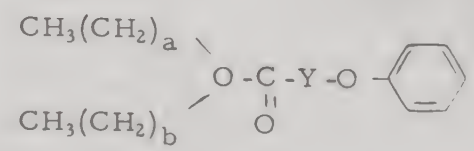
Compsns. may contain 0.1-80% pref. 1-20% by wt. of (I) and/or (II). (II) are $\leq$2, usually $\leq$5, esp. $\leq$10 of the following: oils of patchouli, cedar, vetivert, sandalwood, lavender, oatmoss, bergamot, lemon, geranium, clove and petitgrain; musk ambrette; musk ketone; musk xylenes; coumarin; linolool; linalyl acetate; geranivol; citronellol; phenyl ethyl alcohol; benzyl acetate; (iso) eugenol; amyl or hexyl cinnamic aldehyde; hydroxycitronellal; 2-alkoxyelgenols; acetyl cedrene; cedrol; cedryl acetate; retiverol; and vetiveryl acetate.

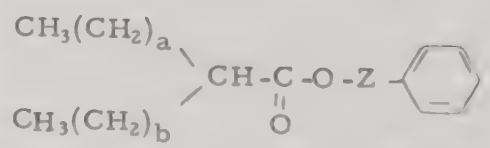
(I) and (II) blend with other ingredients of perfumery compsns. and may be used to impart woody notes with patchouli and cedar wood overtones. 12.4.77 (+4.3.76-GB-008655) (4pp478)

SHIS ★ D23 85216 C/48 ★J5 5133-303
Stabiliser for perfume - comprises phenyl-alkylene mono:ester cpd.
SHISEIDO KK 05.04.79-JA-040704
E14 (D21) (17.10.80) A61k-07/46

One or more monoester cpds. (I) represented by the following formulae are used as stabilisers for perfume (II).







In the formulae, a=1, b=1 or 3, X is 0-2 C satd. straight or bran-ched alkylene, Y is 2C satd. straight or branched alkylene, and Z is 3C satd. straight or branched alkylene.

(I) prevents denaturing of (II) by light, heat, oxidn. etc., and it controls the rate of vaporisation of (II). (I) does not adversely affect human skin.

(I) is synthesised by the transesterification between alcohol such as 2-ethyl butyl alcohol, 2-ethyl hexyl alcohol, 2-phenyl propanol, etc., and acid such as 2-ethyl butyric acid, 2-ethyl hexanoic acid, phenyl acetate, benzoic acid

c.. Examples of (I) are 2-ethyl butyl benzoate, 2-ethyl tyl phenyl acetate, 2-ethyl butyl-alpha-phenyl propion-e, etc.. 5.4.79 as 040704 (6pp42).

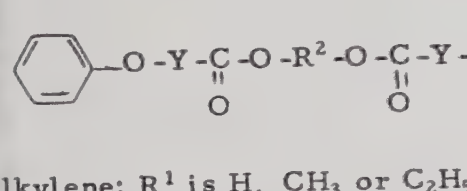
HIS ★ D23 85217 C/48 ★J5 5133-304

abiliser for perfume - is prepd. by transesterification between henoxy carboxylic acid and aromatic alcohol

SHISEIDO KK 05.04.79-JA-040705

E14 (D21) (17.10.80) A61k-07/46

henoxy acid ester represented by formula (I) is used r stabilising perfume (II).



(I)

In the formula, R^1 and R^2 are 1-3C satd. straight or branched alkylene. (I) prevents denaturing of (II) by light, heat, oxidn., etc.. Addn. of (I) ontrols the vaporisation rate of (II) and (I) does not dversely affect human skin.

(I) is synthesised by transesterification between acids uch as phenoxy acetic acid, 3-phenoxy propionic acid, -phenoxy propionic acid, etc., and alcohol such as enzyl alcohol, 2-phenyl ethanol, 1-phenyl ethanol, 3-henyl-1-propanol, 2-phenyl-1-propanol, etc.. Examples f (I) are benzyl benzoate, benzyl phenyl acetate, enzyl phenyl propionate, etc.. 5.4.79 as 040705 (5pp).

SHIS ★ D23 85218 C/48 ★J5 5133-305

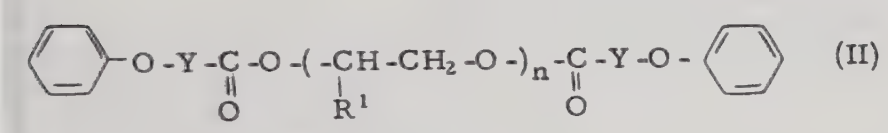
Perfume compsn. with high stability to light, etc. - contains glycol di:ester e.g. (di)ethylene glycol di:benzoate

SHISEIDO KK 05.04.79-JA-040706

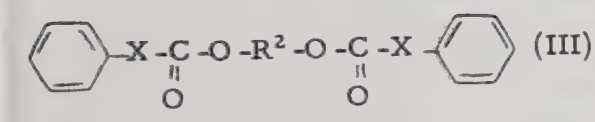
E14 (D21) (17.10.80) A61k-07/46

erfume (II) is stabilised by addn. of ≥1 glycol diester of formula (I)-(IV).

(I)



(II)



(III)

(IV)

In the formulae, X is 0 or 1 or 2 C saturated n- or branched alkylene, Y is 1 or 2C saturated n- or branched alkylene; R^1 is H, CH_3 or C_2H_5, R^2 is 3-6 C saturated n- or branched alkylene, and n=1-4.

Diester(s) stabilise (II) against light, heat, oxidn., etc. and control the vaporisation velocity of (II) without stimulating the human skin. Diester is prepd. by the transesterification between glycol such as ethylene glycol, diethylene glycol, triethylene glycol, 1,2-propylene glycol, etc., and acid such as benzoic acid, phenyl acetic acid, 3-phenyl propionic acid, 3-phenoxy propionic acid, etc.. Typical diesters are ethylene glycol dibenzoate anddiethylene glycol dibenzoate. 5.4.79 as 040706 (7pp42).

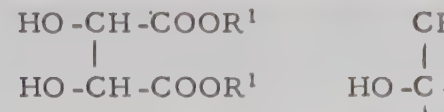
SHIS ★ D23 85219 C/48 ★J5 5133-306

Perfume stabiliser - comprises di:hydroxy di:carboxylic acid di:ester and/or mono:hydroxy tri:carboxylic acid tri:ester

SHISEIDO KK 05.04.79-JA-040707

E17 (D21) (17.10.80) A61k-07/46

At least one dihydroxy dicarboxylic acid diester cpd. of formula (I) and/or monohydroxy tricarboxylic acid tri-ester cpd. of formula (II) is mixed with perfume (III).



(I)

(II)

In the formulae, R^1 and R^2 are 6-14C satd. aliphatic alcohol residues.

(I) stabilises perfume and prevents modification of (III) by light, heat, oxidn., etc.. The addition of (I) controls the vapouring velocity of perfume. (I) does not stimulate human skin. (I) and (II) are synthesised by transesterification between tartaric acid or citric acid, and alcohol such as n-hexanol, 2-ethylbutyl alcohol, 4-methyl-2-pentanol, n-butanol, 2-ethyl pentanol, etc.. Examples of (I) and (II) are dihexyl tartarate, di-4-methyl-2-pentyl tartarate, trihexyl citrate, tri-4-methyl-2-pentyl citrate, etc.. 5.4.79 as 040707 (7pp42).

AGEN D23 69027 X/37 =J8 0042-974

Formyl-substd. phenoxy cpds. from methyl-substd. cpds. - by reaction with oxygen in a fatty acid or anhydride contg. a metal salt

AGENCY OF IND SCI TECH 18.02.75-JA-019458 (00.00.78-JA-087016)

*B05 E14 (04.11.80) *DT2605-678 B01j-31/04 C07c-45/36 C07c-47/57 + C07c-27/12*

Methyl-substd. phenoxy cpds. (I) are selectively converted into the corresp. formyl-substd. cpds. (II) by heating a soln. of (I) in a lower fatty acid or anhydride solvent with a pressurised O_2-contg. gas in the presence of a catalyst comprising at least one soluble Co, Mn, Cr and/or Ni salt.

The prods. (II) are useful as perfumes, medicaments, and intermediates for other fine chemicals. The process gives high conversions (e.g. 50-90%) with high selectivities (e.g. 40-70%) for (II). 18.2.75 as 87016/78, Div.ex 19458/75. C07c 47/575, 45/36, 27/12 (4.11.80) AGENCY OF IND.SCI.TECH. (5pp)(J54016439)

NISW D23 21088 B/11 =J8 0043-040

Purifying colza oil - by treating with an alcohol in which is dispersed a nickel catalyst, used to improve flavour after storage

NISSHIN OIL MILLS KK 11.07.77-JA-081911

*(04.11.80) *J54017-905 C11b-03*

Method comprises treating colza oil with an alcohol (e.g. (m)ethanol, propanol, butanol, etc., in an amt. of 10-50-wt.% of the oil) in which is dispersed a nickel catalyst (e.g. conventional hydrogenation catalysts in an amt. of 0.1-1wt.% of the oil).

In an example, 500 g. of crude colza oil from Brassica napus is recycled with 250 ml. of an isopropanol stream in which is dispersed 5.0 g. of an activated nickel catalyst obtd. from nickel sulphate by conventional wet redn. for 2 hrs. After removal of isopropanol by evapn. and the conventional removal of gummy material with phosphoric acid, the oil is purified with an alkali. 11.7.77 as 081911. C11b 3/00 (4.11.80) NISSHIN OIL MILLS KK (3pp) (J54017905)

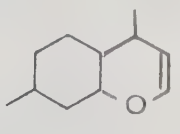
MITP D23 26418 C/15 =US 4233-226

Perfume component hexa:hydro-benzopyran deriv. - prepd. by reacting isopulegol with carbon mon:oxide and hydrogen in presence of rhodium or cobalt catalyst

MITSUBISHI PETROCH KK 24.08.78-JA-103322

*E13 (D13 D21 D25) (11.11.80) *J55028-970 C07d-311/74 + C11b-09*

4a,5,6,7,8,8a-Hexahydro-4,7-dimethyl-4H-1-benzopyran of formula (I) is new. It is prepd. by reacting 2-isopropen-yl-5-methyl(cyclohexanol (isopulegol) with CO and H_2 in the presence of a Rh or Co catalyst. Suitable catalysts are Rh_2O_3, RhX_3, $Rh_6(CO)_{16}$, Raney Co, $Co_2(CO)_8$ etc. (where X is Cl, Br or I). Reaction effected at 70-200 (90-170) °C under 1-200 (30-170) kg/cm² with CO:H_2 mol. ratio 0.5-2.0 (0.8-1.2):1. Opt. solvent e.g. benzene or THF is present.



(I)

(I) is used as a perfume component. It has a distinctive fragrance reminiscent of mitcham peppermint. 24.8.79 as 069407 (3pp945)

POUE D23 53862 B/29 =US 4233-463
2,4-di:nitro-6-tert-butyl-3-methyl-anisole from nitration mixts. - by portionwise addn. of water with removal of the ppte. formed after each addn.
POUDRES & EXPLOSIFS 29.12.77-FR-039624
*E14 (11.11.80) *NL7812-474 C07c-79/35*
Sepn. of 2,4-dinitro-6-t-butyl-3-methylanisole (I) from crude reaction mixts. obtd. by nitrating 6-t-butyl-3-methylanisole by reaction with HNO_3 and acetic anhydride is claimed. Process comprises introducing water into the crude reaction mixt. from <5%-200 wt.% w.r.t. nitrating mixt., in <2 addns., where each addn. contains >100wt.% and prior to each addn. the pptd. prod. is sepd. off.
Organic solvent extn. is no longer necessary and 3/4 of the musk ambrette i.e. (I), present is collected, thus mfg. costs are lower. 18.12.78 as 970131 (4pp954)

D24: SOAP; SOAP DETERGENTS

NOTHING TO REPORT

D25: OTHER DETERGENTS

VELW ★ D25 84482 C/48 ★DL-144-406
Acyl tauride paste concn. and purification - by heating and cooling paste having given sodium chloride content and pH
VEB LEUNA-WERK W ULBRICH 21.06.79-DL-213800
C03 E16 F06 (15.10.80) C07c-143/15
Acyl taurides are purified by heating an acyl tauride paste contg. > 6.5% NaCl, w.r.t. 52% solids, and 30-60% water, and having pH 8.5-12 or 5.5-6.5, to 30-100°C; keeping this temp. for up to 48 hrs.; cooling to 10-30°C; opt. repeating these steps several times and maintaining a heating- to cooling-phase time ratio 1:2-10.
Acyl taurides are used as surfactants in textile industry; as cleansing-, wetting-, dispersant-, fulling- and dyeing assistants; in detergent- and rinsing agent prepn., for household, industrial and chemical industry; and also in agriculture, building- and chemical industry.
The pastes can be conc. to > 43 wt.% acyl tauride content, and purified from >30% of original contaminants w.r.t. NaCl content, without acyl tauride losses. 21.6.79 as 213800 (11pp200)

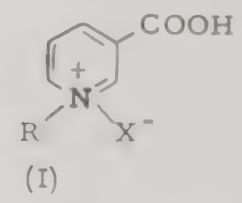
UNIL D25 80709 Y/45 =GB 1580-047
Powder detergent contg. ethoxylated alcohols - with differing degrees of ethoxylation, dried by spray-drying
UNILEVER NV 23.04.76-GB-016641
*A97 (A25) (26.11.80) *NL7704-396 C11d-01/72*
Prodn. of a powdered detergent compsn. comprises (a) spray drying a slurry of a monionic surfactant in the form of an alcohol contg. ≥ 15 wt.% of ≥16C alcohols ethoxylated to an average level of 7-20 moles of ethylene oxide per mole and conventional detergent slurry components to form a spray dried base powder, and (b) adding a detergency extender to the base powder in the form of a 9-15C alcohol ethoxylated to an average level of 2-5 moles of ethylene oxide per mole.
The nonionic surfactant comprises 20-80 wt.% of the total wt. of surfactant and extender. Pref. the extender is sprayed onto the base powder. Pref. the extender is formed in to an adjunct. esp. a granule or a noodle. Tower-emissions are reduced and the resulting compsn. has good deterency for fabrics etc. 21.4.77 (9pp924)

CEDE/ ★ D25 C/48 ★IT 1047-454
Light detergents prepn.
CEDELUPPI A 03.09.74-IT-046854
(10.09.80) C11d

GOOK- ★ D25 85183 C/48 ★J5 5132-774
Laundry sizing agent compsn. esp. for polyester blends - consists of water-soluble polyester resin, starch and/or PVA for excellent adhesiveness etc.
GOO KAGAKU KOGYO KK 28.03.79-JA-037930
A87 F06 (A23) (15.10.80) D06m-15/48
The compsn. consists of (A) water-soluble polyester resin, starch and/or polyvinyl alcohol. (A) is synthesised from (a) polyethylene glycol having average mol.wt. of 600-6,000, (b) dibasic aromatic carboxylic acid, (c) ethyleneglycol and (d) other dihydric alcohol, dibasic aliphatic gp., alicyclic carboxylic acid and oxy acid and contains sulphonic acid group and/or phosphoric acid ester gp. and 5-40 wt.% of (a).
The laundry sizing agent compsn. has excellent adhesiveness to polyester fibres, excellent antistatistic properties, appropriate flexibility, releasing properties on relaundering, etc.. Pref. (b) are, e.g., phthalic acid, terephthalic acid, ethyleneglycol ester, etc. (d) are, e.g., diethyleneglycol, 4,4'-methylenediphenyl, succinic acid, m- or p-oxybenzoic acid, etc.. 28.3.79 as 037930 (3pp90).

GOOK- ★ D25 85184 C/48 ★J5 5132-775
Laundry sizing agent compsn. - comprises water-soluble polyester resin, starch and/or polyvinyl alcohol
GOO KAGAKU KOGYO KK 28.03.79-JA-037931
A87 F06 (A23) (15.10.80) D06m-15/48
The compsn. consists of (A) water-soluble polyester resin, starch and/or PVA. (A) is produced by copolycondensation of 5-40 wt.% of (a) polyethylene glycol having average mol.wt. of 600-6,000, 40-75 wt.% of (b) mixt. of (b_1) bis-(β-hydroxyethyl)phthalate and (b_2) bis-(β-hydroxyethyl)-isophthalate, 3-15 wt.% of (c) 5-sulphoisophthalic acid alkali metal salt and 0-30 wt.% of (d) ethylene glycol or propylene glycol. The ratio of (b_1) to (b_2) is 95:5-70:30 by wt.
Pref. the starch is, e.g., soluble starch, esterified starch, hydroxylated starch, etc.. The ratio of (A) to starch and/or PVA is 50:50-5:95. The molar ratio of acid component to alcohol component in (A) is ca. 1:1.
The compsn. has excellent adhesiveness to polyester fibres, excellent antistatistic properties, flexibility, release properties on re-laundering, etc.. The compsn. is useful especially for polyester blended fibre.
28.3.79 as 037931 (3pp90).

AGEN ★ D25 85323 C/48 ★J5 5133-494
Stain dissolving, water-soluble surfactant - comprising a pyridine carboxylic acid deriv.
AGENCY OF IND SCI TECH 06.04.79-JA-041011
E13 (17.10.80) C11d-01/62
Surfactant comprises pyridine carboxylic acid deriv. of formula (I) or (II): (where R is higher alkyl and X is halogen).



(I) (II)

(I) exhibits strong activity and dissolves stains and can be used even under strong acidic conditions. (I) is easily soluble in water and exhibits low kraft point and exhibits ordinary permeability, emulsifiability, dispersibility and dissolution property as well as low foamability. (I)

exhibits excellent anti-corrosion effect under alkali state.

In an example, nicotinic acid and dodecyl bromide are charged into a flask, after which DMF is added. The mixt. is heated up to 100°C under stirring, and reacted for 48 hrs.. After the reaction, DMF is distilled off in vacuo, and acetone is added to remainder followed by cooling to form crystal which is recrystallised several times from acetone/MeOH solvent mixt. to give N-dodecylnicotinic acid betaine hydrogen bromide having m.pt. of 172-175°C. 6.4.79 as 041011 (5pp34).

LION ★ D25 85324 C/48 ★J5 5133-495

Detergent compsn. comprising anionic and nonionic surfactants - including alpha olefin sulphonate and/or polyoxyethylene alkyl ether sulphuric acid ester

LION FAT & OIL KK 04.04.79-JA-040468

A97 (17.10.80) C11d-03/38

Detergent compsn. comprises 5-50 wt,% anionic surfactant(s) selected from 10-24C α-olefin sulphonate(s) and polyoxyethylene alkylether sulphuric acid ester wherein the aliphatic alcohol has 10-24C and mean adduct molar number of ethylene oxide is 1-10; 0.001-5 wt.% of globular protein, e.g. albumin, histone, protamine, globulin and enzyme etc.; 0.0001-10 wt.% nonionic surfactant having HLB <10, e.g. polyoxyethylene cholesteryl ether, polyoxyethylene hardened castor oil or fatty acid ester thereof, polyethylene glyceryl ether fatty acid ester, polyoxyethylene trimethylol propane fatty acid ester and polyoxyethylene alkylether diester of N-lauroylglutamic acid etc.; and the remainder ordinary anionic surfactant(s) other than the above anionic surfactant if desired, e.g. alkylbenzene sulphonate and soap etc., the amt. of which is less than that of the above anionic surfactant.

The amt. of the nonionic surfactant having HLB of <10 should be ≥0.1 times that of the globular protein, thereby migration of the globular protein in stabilised aq. soln. is improved. The detergent compsn. can remove strongly adhered dirt from collars and cuffs. 4.4.79 as 040468 (6pp34).

LION ★ D25 85325 C/48 ★J5 5133-497

Prodn. of thin flakes of soap - comprises kneading a compsn. contg. soap, water and sodium silicate, exerting a shearing force action, forming a film and converting

LION FAT & OIL KK 05.04.79-JA-041367

A97 (17.10.80) C11d-09/10 C11d-13

Soap exhibiting excellent washability, improved mechanical shock resistivity and storage stability, comprises 5-20 wt.% of fine granulated particles of Na_2O -$nSiO_2$ where $1.0 < n \leq 4$); 3-15 wt.% of total water content, and 65-92 wt,% of pure soap component. The particles of Na silicate have a granular size of <10 μm, and are uniformly dispersed in a continuous phase of the soap.

The soap is produced by thoroughly kneading together soap, water content, powdered Na silicate and if necessary conventional assisting additives, e.g. scum dispersant, perfume, pigment, CMC and polyethyleneglycol etc.; treating the mixt. by the action of shearing force to make the finely powdered Na silicate to give the soap compsns; forming the soap compsn. into a film of thickness 25-250 μm by means of a roller, followed by converting into flakes. 5.4.79 as 041367 (7pp34).

TAKA/ ★ D25 85326 C/48 ★J5 5133-498

Water-soluble deodorising detergent - prepd. by dissolving N-long chain acyl aminoacid salt, sucrose lauric acid ester and rosin (deriv.) in mineral water

TAKADA K 06.04.79-JA-041031

(17.10.80) C11d-03/38 C11d-10/02

Detergent is prepd. by dissolving (a) N-long chain acyl-aminoacid salt, esp. Na salt of lauroyl methyl glycine or myristoylmethylglycine etc. and sucrose fatty acid ester, esp. sucrose oleic acid ester or sucrose laurylic ester etc., and (b) rosin, their salts (with alkali metal or organic base), or their esters or amides, in mineral water having pH value of 2.0-3.0, contg. 70-110 ppm Ca, 35-45 ppm Al, 15-30 ppm Na, 11-17 ppm Mg, 7-12 ppm Fe, 140-200 ppm Cl, 350-550 ppm SO_4 and 110-170 ppm CO_3, in the presence of hydroxyl carboxylic acid, esp. gluconic acid, tartaric acid, citric acid and/or malic acid.

Detergent is esp. for use in the washing of dishes, and exhibits an excellent deodourising and washing effect as well as having a protective effect on the human skin without any stimulative action, and has pH 4.5-6.5. 6.4.79 as 041031 (4pp34).

JOHN- ★ D25 86187 C/48 ★US 4233-167

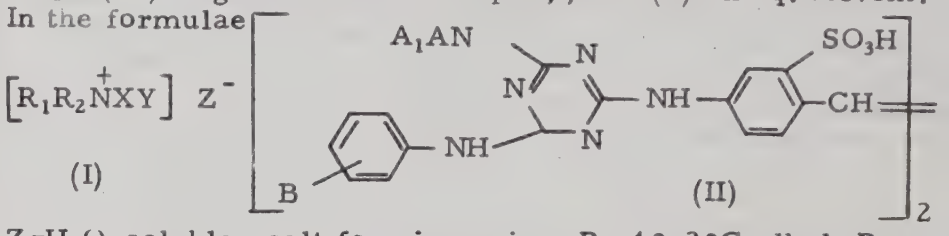
Aq. stable liq. detergent compsn. - contg. nonionic surfactant, quat. ammonium fabric softener, optical brightener, and hydrotrope

JOHNSON S C & SON I 14.06.79-US-048411

A97 E19 (11.11.80) C09k-11/06 C11d-01/83 C11d-03/42 D06m-13/46

Aq., stable, liq. detergent compsn. (pH 6-10) contains (by wt.): (a) 10-50% of an H_2O-soluble nonionic surfactant system (I) of relatively high cloud pt.; (b) 0.75-6% of a quat. NH_4 fabric softener (II) of equiv. wt. 400-2000; (c) an optical brightener (III) (or salts having H_2O-soluble anions) in equiv. wt. ratio (II):(III)=0.5-1:1; (d) a hydrotrope (IV) to give a stable compsn, ; and (e) an aq. solvent.

In the formulae



(I) (II)

Z=H_2O-soluble, salt forming anion; R_1=10-20C alkyl; R_2=R' or 10-20C alkyl; XY=Me, Et, 2-hydroxy-ethyl or-propyl $(R'')_nC(H)-C(H)-OH$ or $(R'')_nC(H)-C(H)-O-H$; R''=polymer with 1-10 ethoxy, i-propoxy, or mixed ethoxy-i-propoxy units; R'=polyethoxy ethanol having 1-10 ethoxy units only when (i) X=Y=Me, or (ii) X=Me, Y=polyethoxyethanol (1-10 ethoxy units), (iii) X=Et, Y=polyethoxy ethanol (1-10 ethoxy units); AA_1=H, Me, Et, i-Pr, $HO(CH_2)_2$, propanamido, or together as morpholino or PhNH; B=H, m-SO_3M, or p-SO_3H; total no of SO_3H gps. is 3-5.

Compsn. is easily pourable and storage stable, and provides enhanced cling-free softening and brightening with -out loss of cleansing props. or yellowing of fabrics. 14.7.79 as 048411 (8pp478)

DESP ★ D25 86188 C/48 ★US 4233-171

Dishwashing detergent compsn. effective at low temp. - contains chelating agent, alkali source, bleach and mixt. of nonionic surfactants

DESOTO INC 11.09.78-US-941185 (01.11.76-US-737588)

A97 E37 (A25) (11.11.80) C11d-07/56

Detergent compsn. for machine dishwashing at lower temp. contains (a) a chelating agent for Ca and Mg; (b) alkaline material providing ≥12 (≥20)% alkali metal oxide; (c) water-soluble oxidising bleach providing 0.3-3 wt.% Cl or O oxidiser and (d) a mixt. of nonionic surfactants.

The mixt. comprises ≥1% each of (i) low-foaming, water-soluble polyoxypropylene-terminated block copolymer with an polyoxyethylene core (A); (ii) oil-soluble condensate of 1-5 moles ethylene oxide (EO) with a monohydric hydrophobic cpd. (B); (iii) high-foaming, water-soluble condensate of ≥7 moles EO with a monohydric hydrophobic cpd. (C); in total of ≥7 (7-10)%.

Compsn. effectively removes oil at 100-120°F, cf. ≥130°F for known formulations, so provides substantial energy savings. 11.9.78 as 941185 C.i.p. 4187190 (cf 12699C/07)(+27.1.78-US-872761)(6pp1251)

DESP ★ D25 86189 C/48 ★US 4233-172

Low phosphate content dish-washing powder compsn. - contg. phosphate, carbonate, high foaming nonionic surfactant and foam suppressant

DESOTO INC 13.10.78-US-951245 (01.11.76-US-737588)

A97 E34 (11.11.80) C11d-07/56

Dry powder, low-phosphate, machine dishwashing compsn. comprises (a) 10-20 wt.% alkali metal tripolyphosphate or hexametaphosphate; (b) ≥8 wt.% alkali metal (bi)carbonate or sesquicarbonate providing carbonate:phosphate ratio 0.8-1.3:1; (c) ≥1-10 wt.% water-soluble, high-foaming nonionic surfactant (A) and (d) foam-reducing agent for (A).

(A) is a condensate of ≥7 moles ethylene oxide (EO) per mole monohydric. Cpds., and opt. the compsn. also includes an oil-soluble liq. surfactant (B) comprising an 8-18C alkanol condensed with 1-5 moles EO, with (A):(B) ratio 1:9-9:1.

Compsn. are highly effective, even in hard water, for removal of food residues without spotting or damaging glassware. 13.10.78 as 951245 C.i.p. 4187190 (cf. 12699C/07) (+27.1.78-US-872761) (6pp1251)

MONS ★ D25 86190 C/48 ★US 4233-173

Solid detergent compsns. contg. di:potassium chloro-imido-di:sulphate - useful for stain removal from fabrics without causing damage

MONSANTO CO 09.11.78-US-959394

E19 (11.11.80) C11d-07/54 D06l-03

Solid detergent compsn. consists of ≤5% by wt. of an anionic, nonionic, zwitterionic, ampholytic, or amphoteric surfactant (I), together with stable, crystalline di-K N-chloroimidodisulphate (II). In (II), pref. >95 esp. > 99 atom % of the alkali metalsis K. (II) is pref. buffered with 5-50 wt.% (based on solid (II)) K_2CO_3 so that the wash soln. has pH 9.5-11, esp. 9.8-10.3. Compsns. pref. contain 5-30 % by wt. of (II), 5-50 % esp. 10-25 % by wt. of (I) (for general laundry use), and pref. also 5-60% by wt. of a conventional builder (wt. ratio (I): builder = 1-2:12-1).

Solid (II) free of other alkali metals is stable in dry air, and in aq. soln. is strong enough as a bleach to remove stains from soiled fabrics but does not damage the dyes or fabrics. 9.11.78 as 959394 (5pp478)

LANK D25 56559 B/31 =US 4233-174

Cleansing mixt. forming quick-breaking emulsion with oil - contains fatty alcohol ethoxylate and/or higher alkyl phenol ethoxylate and an opt. lower alkyl substd. phenol ethoxylate (NL 23.7.79)

LANKRO CHEMICALS LTD 15.12.78-GB-048773 (19.01.78-GB-002160)

*A97 P43 (11.11.80) *DT2901-927 C11d-01/70 + C11d-07/50*

A cleaning compsn. comprises 35-80 wt.% of a surfactant and 65-20 wt.% of a phenol ethoxylate contg. 3-10 moles of ethylene oxide per mole of phenol. The surfactant comprises a fatty 8-18C alcohol ethoxylate contg. 2-10 moles of ethylene oxide per mole of alcohol, and/or an 8-12C alkyl phenol ethoxylate contg. 4-10 moles of ethylene oxide per mole of phenol. Pref. the compsn. is dissolved in 95-50 wt.% of solvent w.r.t. the compsn., the solvent comprising water and a hydrocarbon.

The compsn. is used to remove an oil soil from a substrate by its application, such that the emulsion formed is allowed to stand until it breaks, and the oily and compsn. phases sepd. oil sludges in oil storage or transport tanks are esp. treated, the oil being recoverable. 12.1.79 as 003121 (3pp931)

GENA D25 52918 B/29 =US 4233-229

Salt-free N-acyl taurine prepn. - by reacting taurine salt and acid chloride in alkanol in presence of alkali metal hydroxide, sepg. pptd. chloride, and cooling to ppte.

GAF CORP 03.01.78-US-866284

*A60 E16 (11.11.80) *EP---2-675 C07c-143/90*

Prepn. of an N-acyl taurine free of (corrosive) alkali metal chloride comprises reacting in a 1-4C alkanol medium initially contg. ≤15 wt.% water, at 30°C to reflux temp., 1 mole 6-22C carboxylic acid chloride and 1 mole taurine salt of formula $HNR'-CHR^2-CHR^2-SO_3M$ in the presence of ca. 1 mole alkali metal hydroxide. In the formula R' is H or 1-6C hydrocarbyl; R^2 is H or (m)ethyl; and M is alkali metal.

The pptd. alkali metal chloride is sepd. while the temp. of the reaction mixt. is kept high enough to solubilise the N-acyl taurine reaction prod. The mixt. is then cooled to ppte the N-acyl taurine.

The prods. are anionic surfactants and are used in detergents, soaps, toothpastes, mould release compsns. and in emulsion polymerisations. 3.1.78 as 866284 (5pp945)

PROC ★ D25 86213 C/48 ★US 4233-235

Continuous aliphatic di:peroxy-carboxylic acid prodn. - from corresp. acid, hydrogen peroxide and sulphuric acid in stirred reactor, useful as bleach

PROCTER & GAMBLE CO 26.02.79-US-015393 (31.08.77-US-829310)

E17 (11.11.80) C07c-179/10

Continuous prodn. of peroxyacids of formula $(HOO.CO)_2(CH_2)_n$ (I) (n= 6-14) comprises feeding to a stirred reactor at 15-45°C, H_2O_2, water, H_2SO_4 and an acid of formula $(HOOC)_2(CH_2)_n$ (II). The prod. is withdrawn, (I) filtered off and washed. The feed rates are controlled to maintain liq. concns. of 60-80% H_2SO_4; 0.5-15 (2-15)% H_2O_2 and 5-39.5 (5-38)% water, and (I) is recovered as crystals of average size >19 microns.

Esp. (II) is dodecanedioic acid (IIa) and is supplied dissolved in the H_2SO_4. Reaction may be carried out (a) in a high-speed recycle reactor or (b) in a mixed reactor having a stirred bank section plus high-speed recycle and/or plug-flow sections.

(I) are useful as bleaching agents. This continuous process produces (I) of larger crystal size than known batch processes, so collection is easier with increased filtration rates. 26.2.79 as 015393 (7pp1251)

MONS ★ D25 86283 C/48 ★US 4233-422

Acetal carboxylate polymer stabilised against alkali depolymerisation - by addn. of alkyl end gps. using di:alkyl sulphate and alkali metal hydride

MONSANTO CO 24.09.79-US-078274

A25 (A97) (11.11.80) C08g-06 C08l-61/02

Prepn. of an acetal carboxylate polymer comprises polymerising an ester of glyoxylic acid using an initiator. The product is stabilised against rapid depolymerisation in alkaline soln. By addn. of an alkali metal hydride (I) and a dialkyl sulphate (II) contg. 1-20C in each alkyl gp., in order to add alkyl gps. to the polymer termini. Pref. ≥2 moles (II) are used per mole polymer, esp. ≥6 moles (I), and esp. pref. 10 moles (I). Pref. (I) is NaH and the alkyl gps. in (II) are 1-4C, esp. Me. Pref. ≥2 moles (I) are used per mole polymer.

Salts of the polymers are useful as complexing agents and builders for detergents. 24.9.79 as 078274 (3pp904)

MONS ★ D25 86284 C/48 ★US 4233-423

Acetal carboxylate polymer stabilised against alkali depolymerisation - by reaction with an acetal using an agent to remove alcohol formed

MONSANTO CO 05.11.79-US-091656

A25 (A97) (11.11.80) C08g-06 C08l-61/02

Prodn. of an acetal carboxylate polymer comprises polymerising an ester of glyoxylic acid using an initiator. The product is stabilised against rapid depolymerisation in alkaline soln. By addn. of an acetal of formula $R^1O-CHR-OR^2$ (I) and an acid catalyst, to add chemically stable end gps. to the polymer. An agent (II) is added to remove liberated alcohol. (R is H or 1-6C alkyl; R^1, R^2 are each 1-6C alkyl). Pref. (II) is a molecular sieve of channel diameter ≥3 A or P_2O_5. Pref. R^1, R^2 are each Me or Et and R is H or Me esp. H. The product can be saponified with alkali metal hydroxide.

Salts of the polymers are useful as complexing agents and builders for detergents. Novel terminal structures can be obtd. on the polymers. 5.11.79 as 091656 (5pp904)

OLIN ★ D25 86293 C/48 ★US 4233-444

Continuous mono:alkali metal cyanurate prodn. - from cyanuric acid and aq. alkali hydroxide, using two reactors in series

OLIN CORP 02.07.79-US-054334

E12 (11.11.80) C07d-251/32

Continuous prodn. of monoalkali metal cyanurate (I) comprises supplying cyanuric acid (II) and aq. alkali hydroxide soln. to a first reactor to produce a slurry of (I) and (II). A part of this slurry is passed to a second reactor where reaction continues to give a slurry contg. (I).

Pref. the alkali hydroxide is Li, Na or K hydroxide used as a 1-30 (4-20) wt.% soln. and the first slurry has density 1.02-2 g/ml and solid content 4-40 wt.% of which

-90 wt.% is (I). Opt. additional hydroxide is supplied to second reactor and the second slurry has pH 8.5-9.5 9-9.1).

(I) can be chlorinated directly to give chloroisocyanur- salts useful as bleaches and sanitising agents. They e also useful as stabilisers for chlorine-contg. water pplies. This continuous process gives (I) of uniform emical compsn. with reduced operating and investment sts compared with batch methods. 2.7.79 as 054334(3pp)

OC D25 82976 Y/47 =US 4233-451

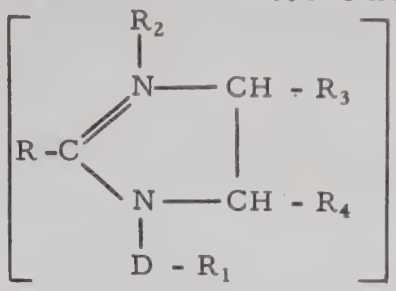
idazolinium quaternary salts free of unreacted amines, prepn. - including intermediate alkoxylating stage

PROCTER & GAMBLE CO 27.07.76-US-708980 (20.05.76-US-687951)

*E13 F06 (11.11.80) *BE-854-803 C07d-233/24*

repn. of quat. imidazolinium salts of formula (I) compris- (i) forming an acylating or esterifying agent mixt. hav- g 10-22C aliphatic hydrocarbon gp. associated with each yl gp. and an alkylene or polyalkylene polyamine having or 3 amino gps., one of which is prim. or sec. amino gp. the 2 posn. w.r.t. a prim. amino gp., the molar ratio acyl gps : prim. amine and OH gps. is 0.33:1 to 1.5:1; ii) reacting the mixt. for 3-24 hrs. at 100-250 °C and then raining a vacuum of from 0.4 mm-10 mm Hg for 1-8 hrs. form an imidazoline prod. with starting materials and ntermediates.

Furthermore (iv) treating mixt. of (ii) with an alkylating gent in an amt. such that the molar ratio of alkylating gent to imidazoline is $\leq$1:1; and where the improvement omprises performing step (iii) between steps (ii) and (iv) hich involves treating the imidazoline prod. of (ii) with an lkoxylating agent consisting of an alkylene oxide selected rom ethylene oxide, propylene oxide, butylene oxide, lycide and cyclohexane oxide, in an amt. equal to 1-5 wt. % of the imidazoline prod. mixt. while maintaining a temp. of 80-140 °C for 0.5-8 hours, to form (I).



(I)

In the formula R and R_1 and 10-22C aliphatic gps; R_2 is 1-8C (ar)alkyl; R_3 and R_4 are H, OH, 1-4C alkyl or 1-4C OH short chain alkyl; X is anion; and D is $-(C_nH_{2n})-NH-CO-$ (where n = 1-6).

20.10.78 as 953065 Div.

ex 4127489 (9pp954)

SHEL D25 83013 C/47 =US 4233-460

Mild oxidation of alkoxy:alcohol(s) to alkoxy:acid(s) - using tert. butyl hydroperoxide as oxidising agent in the presence of alkali metal hydroxide and palladium catalyst

SHELL OIL CO 03.05.79-US-035871

*A25 E17 (A97) (11.11.80) *EP--18-681 C07c-51/26*

Alkoxyalkanoic acid of formula $RO(CH_2CHR'O)_nCH_2CO_2H$ (I) is prepd. by reacting the corresp. alkoxyalkanol with tertiary butyl hydroperoxide and a liq. alkali metal hydroxide at a temp. of 20-100 °C in the presence of a catalyst. R is a 1-22 (pref. 11-18)C alkyl, R' is H, and/or methyl and n is 1-12 (pref. 2-9). The catalyst is palladium metal pref. in a molar ratio of palladium : alkoxyalkanol > 1 : 1000 and the reaction occurs while there is an excess of alkali metal hydroxide present.

Process is an extremely mild, low temp. oxidation which minimises degradation prods., and provides high conversion of the alcohol and hydroperoxide with high selectivity for the acid salt. Prods. can be used as anionic detergents. 3.5.79 as 038871 (5pp918)

See Also

D21 US 4233192 D23 DS 2043341 D23 US 4233226

ABBO 08.09.76 ABBOTT LABORATORIES B03 D16 =CA 1088-928
Broad spectrum antibacterial 3'-epi-seldomycin factor 5 - 16474C/09
ABBO 29.03.79 ABBOTT LABORATORIES B03 D22 E13 =GB 2047-240
1-Epi-fortimicin A and derivs. - 64094C/36
ABBO 14.05.79 ABBOTT LABORATORIES B04 D16 S03 S05 #DT 2919-334
Reverse passive haemagglutination test for Neisseria gonorrhoeae - 84708B/47
AGEN 00.00.78 AGENCY OF IND SCI TECH B05 D23 E14 =J8 0042-974
Formyl-substd. phenoxy cpds. from methyl-substd. cpds. - 69027X/37
*AGEN 29.03.79 AGENCY OF IND SCI TECH A96 B04 D16 *J5 5131-392
Fixed enzyme membrane prodn. - 85037C/48
*AGEN 04.04.79 AGENCY OF IND SCI TECH D22 F09 *J5 5133-249
Absorbent for water, urine, blood etc. - 85214C/48
*AGEN 06.04.79 AGENCY OF IND SCI TECH D25 E13 *J5 5133-494
Stain dissolving, water-soluble surfactant - 85323C/48
*AGEN 24.04.79 AGENCY OF IND SCI TECH D15 (D16) *GB 2047-223
Organic waste anaerobic digestion process - 84967C/48
AGRO- 12.02.79 AGROKEMIA SZOVETKEZ C03 D13 #FR 2448-297
Feedstuff, esp. feed concentrate prodn. - 60623C/35
AIRL 19.02.79 AIR LIQUIDE L' D13 =FR 2448-864
Inhibiting bacteria in refrigerated milk - 64664C/37
AIRP 18.01.78 AIR PRODUCTS & CHEM INC D13 J02 =CA 1088-751
Fluid blending control appts. - 07172C/04
AJIN 10.07.76 AJINOMOTO KK C03 D13 =J8 0042-612
Artificial feed for silkworm - 18297A/10
AJIN 24.03.77 AJINOMOTO KK D13 (D16) =J8 0042-818
Eggs imparted with cheese-like taste and flavour - 84576A/47
*AJIN 02.04.79 AJINOMOTO KK D13 E19 *J5 5131-361
Crab-flavoured seasoning compsn. - 85029C/48
AJIN 02.04.79 AJINOMOTO KK B05 D16 E16 =J5 5131-397
L-threonine prodn. by fermentation of Escherichia coli strains - 77301C/44
*AKGO= 26.01.78 AS KIRG ORG CHEM INST B05 D16 *SU -726-163
Bitter alcoholic medicinal drink - 85751C/48
*ALBE- 26.04.79 ALBERTA GAS CHEM D13 E17 *WP 8002-364
Cold water-soluble fumaric acid compsns. - 86325C/48
ALBR 04.03.76 BUSH BOAKE ALLEN D23 E15 *GB 1580-184
Perfume compsns. contg. clovanol and/or clovanone - 84946C/48
ALFA 27.02.79 ALFA-LAVAL AB C04 D15 E17 =SF 8000-561
Ethanol prepn. by carbohydrate fermentation - 64462C/37
ALFF 20.02.74 ALFA FARMACEUTICI SPA B02 D16 =IT 1047-483
Cephalosporin C recovered from aqueous media - 46104W/28
ALTE- 12.10.77 ALTENBURGER MASCH C03 D15 (D13 D17) =US 4233-406
Treatment of waste water from wheat starch prodn. plant - 31944B/17
AMAN 28.06.73 AMANO PHARM KK C03 D13 (D16) =J5 0019-944
Powdery foodstuff or feedstuff mfr. - 85558C/48
*AMAN 28.06.73 AMANO PHARM KK C03 D13 (D16) *J8 0042-613
Powdery foodstuff or feedstuff mfr. - 85558C/48
*AMAN 02.04.79 AMANO SEIYAKU KK B04 D16 *J5 5131-389
Deoxyribonuclease I purificn. - 85035C/48
AMCY 27.04.73 AMERICAN CYANAMID CO B04 C03 D16 (D13) =IT 1047-135
Isolation of antibiotic AV-290 from Streptomyces candidus - 79238V/46
*AMMA/ 11.05.79 AMMANN S D14 *DT 2919-015
Sterile container filling station - 84602C/48
AMSA 06.02.79 AMERICAN STERILISER CO D22 S05 T01 =FR 2448-352
Microprocessor control of steriliser cycles - 59071C/34
AMWA- 23.01.78 AMER WATER RECYCLI D15 #CA 1089-126
Aerobic sewage treatment in modular tank - 12133A/06
ANDO/ 05.09.74 ANDO M D13 =US 4233-327
Instant rice by pressing wet rice, adjusting water content - 23808X/13
*ANGE 30.04.79 ANGERS J W B04 D16 J04 S03 (S05) *WP 8002-459
Blood test for diagnosing multiple sclerosis and malignant disease - 86358C/48
*ANIO- 19.02.79 ANIOS SARL LAB D22 J04 *FR 2448-930
Atomising liq. into conditioned air for laboratories etc. - 84899C/48
*ANVR 06.02.79 AGENCE NAT VALORISATION D13 S03 *FR 2448-296
Controlling butyric fermentation in cheese by detecting hydrogen - 84840C/48
*APRO- 14.02.79 APROALFA APROVECHAM D14 *FR 2448-866
Packaging forage for storage in plastic bags - 84888C/48
AQUA/ 07.05.79 AQUARIUS C H D13 =NL 7905-691
Packaging process for lollipop on stick - 68166B/38
ASAE 20.06.75 ASAHI DENKA KOGYO D13 (D11) =J8 0042-608
Plastic fat compsn. contg. fatty acid esters - 11757Y/07
ASAE 24.07.75 ASAHI DENKA KOGYO D13 =J8 0042-617
Stable fo eable oil-in-water emulsified fats - 19279Y/11
ASAH- 18.01.79 ASAHI MEDICAL CO LT A88 D15 J01 (A23 A25) =GB 2047-161
Hollow-fibre dialysis membranes - 53637C/31
*ASIB= 26.01.78 AS SIBE BR BOTANIC B05 D16 *SU -726-163
Bitter alcoholic medicinal drink - 85751C/48
*ATLF 19.03.79 ATLANTIC RICHFIELD CO D15 *US 4233-152
Tert. sewage treatment by contact with ozone - 86176C/48
*ATOM= 16.10.78 ATOMIC ENERG MACH D15 *SU -728-884
Slotted cap for water-preparation filter - 85997C/48

*AUBO= 10.11.77 AS UKR BOTANY INST C03 D13 *SU -727-687
Flammulina velutipes fungal strain - 85859C/48
*AZIE- 27.10.70 AZIENDA AGRICOLA NA D12 *IT 1047-475
Mixed meat foodstuffs prodn. and roasting - C/48

*BABO- 15.05.79 DR BABOR & CO GMBH D21 *DT 2919-422
Cosmetic skin treatment compsns. - 84631C/48
BADI 24.07.76 BASF AG C01 D22 E12 F09 =CA 1088-923
Tri:organo-tin derivs. of hydroxy-diazenium oxide(s) - 06406A/04
BADI 30.03.79 BASF AG D16 =J5 5131-393
Immobilising enzymatically active material - 73758C/42
*BADI 19.05.79 BASF AG D15 *DT 2920-350
Dewatering of clarifier sludge - 84687C/48
*BADI 19.05.79 BASF AG D15 *DT 2920-434
Dewatering of sludge - 84695C/48
BASC 02.05.79 BASCOMB S B04 D16 =WP 8002-433
Rapid identification of bacteria - 83066C/47
*BAUE/ 11.06.79 BAUER S D15 *DL -144-254
Purifying waste waters contg. (in)organic colouring materials - 84440C/48
BEAF 21.07.76 BEATRICE FOODS CO D13 =CA 1088-801
Nutritionally balanced single food compsn. - 25828B/13
BEEC 14.10.76 BEECHAM GROUP LTD A96 D21 (A13 A14 A17) =GB 1579-934
Oil-in-water or water-in-oil skin cosmetic - 30444A/17
BEEC 09.12.76 BEECHAM GROUP LTD A96 D21 =GB 1579-935
Cosmetic oil-in-water emulsion - 36589A/20
*BENT 01.05.79 BENTSEN A T D13 J04 S03 (D16) *WP 8002-458
Prophylactic determination of food putrefaction - 86357C/48
BERE- 27.02.70 BEREB BUREAU ETUD RECH D13 =DS 2109-345
Water soluble powdered vegetable pro-ducts - 59571S/37
BESL/ 11.04.79 BESLER H C04 D16 E17 H09 (D15) =SW 8002-619
Methane produced from organic waste in fermenting vessel - 60520C/35
BETH- 02.04.79 BETHESDA RES CORP B04 D16 =J5 5131-390
Lyophilised restriction endo:nuclease - 75598C/43
BETT- 28.01.74 BETTCHER INDS INC D12 =DS 2454-042
Air driven annular boning knife - 89781V/52
*BIOC= 03.10.77 BIOCHEMISTRY INST B04 D16 *SU -727-681
Aspergillus orizae fungal strain - 85853C/48
*BIOC= 05.07.78 BIOCHEMISTRY INST D16 *SU -727-657
D-ribulose-5-phosphate enzyme substrate - 85833C/48
BIOT- 21.04.76 BIOTECHN PROC LTD D13 =GB 1579-823
Flavouring of spun protein fibres - 86038A/47
*BIOT- 01.05.79 BIOTEKNISK INST D13 J04 S03 (D16) *WP 8002-458
Prophylactic determination of food putrefaction - 86357C/48
*BIOT= 07.02.79 BIOTECH RES INST D23 (D16) *FR 2448-567
Rose essence prepn. by enzyme treatment of flowers - 84864C/48
BOEF 14.03.74 BOEHRINGER MANNHEIM GMBH B04 D16 J04 S03 (S05) =J8 0042-636
Enzymatic analysis procedure - 42798W/26
BOEF 06.05.75 SUDDEUTSCHE ZUCKER B03 D13 E13 =US 4233-439
Glucopyranosido-1,6-mannitol used as sugar substitute - 70494X/38
BOEF 12.06.78 BOEHRINGER MANNHEIM GMBH A96 B04 D16 J04 =DL -144-277
Microbiological test materials e.g. for detecting microorganisms - 00076C/01
BOEH 05.11.77 BOEHRINGER INGELHEIM B02 D13 E13 =US 4233-333
Furo and thieno (3,2-d)-isothiazole-3-one-1,1 di:oxide(s) - 35252B/19
BOEH 22.03.79 BOEHRINGER INGELHEIM D16 (D17) =J5 5131-394
Immobilised glucose oxidase and catalase prod. - 71712C/41
*BOEH 12.05.79 BOEHRINGER C H SOHN D14 *DT 2919-259
Clarification of fruit juice - 84617C/48
*BORR/ 05.06.79 BORRIS R D16 (D17) *DL -144-173
Fermentative enzyme prepn. in aerated submerged culture - 84425C/48
*BOSC 05.05.79 BOSCH R GMBH D17 *DT 2918-245
Continuous massecuite discharge mechanism - 84531C/48
BRAN/ 07.03.79 BRANEMARK P I B04 D22 =SF 8000-706
Surgical implants with microporous surface - 49867C/29
BRAU- 09.04.79 BRAUPATENT UNIV AG D16 =NO 8001-010
Beer brewing vat - 77579C/44
BREW 12.03.76 BREWING PATENTS LTD A97 D16 J01 =GB 1580-191
Degassing liquids - 15858A/08
BRIM 02.12.77 BRISTOL MYERS CO D25 E13 =CA 1088-840
Tile and grout cleaning compsns. - 44969C/25
BRIM 02.04.79 BRISTOL MYERS CO B02 C02 D16 (D13) =DK 8001-387
Antitumour antibacterial complex BBM-928 and individual components - 73461C/42
BRIM 02.04.79 BRISTOL MYERS CO B02 C02 D16 (D13) =SW 8002-521
Antitumour antibacterial complex BBM-928 and individual components - 73461C/42
*BRIS/ 09.02.79 BRISOU J B04 D16 *FR 2448-351
Compsns. contg. hyaluronidase, pectinase and bacitracine - 84846C/48
*BRIT- 17.05.79 CHEM BRITA GERATE D15 *DT 2919-901
Water purification appliance - 84660C/48
*BROH/ 19.02.79 BROLHIER Y P J D13 *FR 2448-850
Air circulation drying chamber for food prods. esp. cheeses - 84883C/48

BRPE 29.07.76 BRITISH PETROLEUM LTD A11 D16 G03 H04 (A97 D12 H01) = US 4233-438
Microbial biomass and hetero-polysaccharide bio polymer prodn. - 13391A/07
BRTO 20.05.76 BOC LTD D15 J02 = GB 1580-035
Injection of compressed gas into liq. - 86907Y/49
*BRUN/ 10.05.79 BRUNNER G D16 S05 *DT 2918-834
Biological cell fractionation - 84578C/48
BUHL 15.03.79 BUHLER GEBR AG D11 = BR 8001-403
Bread crumb flour mfr. - 71961C/41

CALP- 16.07.75 CALPIS SHOKUHIN KOG A97 D13 = JB 0042-615
Quick cooking rice prepn. - 08021Y/05
CALP- 16.07.75 CALPIS SHOKUHIN KOG A97 D13 = JB 0042-616
Quick cooking rice prepn. - 08021Y/05
*CALS- 09.11.79 CALSPAN CORP D16 *US 4233-404
Detection and concn. of pathogens in air and water - 86275C/48
CAMP- 25.05.78 CAMPBELL SOUP CO D12 = CA 1088-706
Dry de-boning of poultry leg by centrifugal force - 56641C/32
CANA 21.03.79 CANADIAN PAT & DEV LTD B02 D16 = DT 3007-400
Codeine prodn. from opium poppy - 77671C/44
*CARB- 15.05.79 CARBOXYQUE FRANCAIS D15 *DT 3016-239
Oxidising water treatment - 84740C/48
*CARL 02.05.79 CARLSON L A B04 D16 S03 (S05) *WP 8002-460
Determining serum apoprotein by competitive binding reaction - 86359C/48
*CASB- 29.03.79 CASBURT LTD D15 J01 L02 *GB 2047-396
Dewatering liquids and slurries to form powder - 84982C/48
*CECC/ 05.02.73 CECCATO O D16 *IT 1047-452
Must collection and conveying system - C/48
*CEDE/ 03.09.74 CEDELUPPI A D25 *IT 1047-454
Light detergents prepn. - C/48
CELA 29.10.76 CELANESE CORP D15 H05 (H09) = CA 1089-125
Treatment of aq. organic wastes in anaerobic filter - 32088A/18
CENT- 12.02.79 CENTRAL-INTERTRADE D15 = GB 2047-104
Activated water prodn. for accelerated growth - 60752C/35
*CERW/ 14.05.79 CERWINSKY P D15 *DT 2919-315
Water purificn. for dialysis purposes - 84624C/48
CEVA- 17.08.76 CEVA SA C03 D13 (D16) = FR 2448-299
Ensilage using added cellulase(s) - 46248C/27
CGDA 23.02.79 CIE GEN AUTOMATISME B04 D16 S03 (S05) = GB 2047-401
Automatic measurement of antibiotic activity - 62756C/36
*CHAN/ 07.02.79 CHANET J D13 *FR 2448-287
Preparing small portions of cheese for packaging - 84838C/48
CHCM 04.04.79 CHEM WERKE MUNCHEN AG D25 E12 = DK 8001-422
Prodn. of fatty acid soaps in granular form - 79208C/45
CHIN 21.02.79 CHINOIN GYOGYSZER A60 C03 D13 E13 (D21) = SF 8000-499
2,2-Di:methyl-1,2-di:hydro-quinoline-4-yl methyl sulphonic acid - 48199C/28
CHIN/ 27.02.76 CHINFEN D L D12 = US 4233-018
Extruding egg roll filling from adjustable die - 29813B/16
CHPE- 14.02.79 CHIM PERDOMIMI SPA A17 D16 F01 (A97) = FR 2448-867
Polyolefin fibres used in sepn. of juice or must from fruit - 60503C/35
CIBA 01.08.69 CIBA GEIGY AG A22 D15 (A14 A97) = DS 2037-944
Organic impurities removal from water - 10120S/05
*CLGE 22.11.75 COLLAGEN CORP A96 B04 D22 *US 4233-360
Laminated burn dressing consisting of foam and film - 86257C/48
CNRS- 18.08.76 INST NAT SANTE RECH A88 B04 C03 D16 = FR 2448-902
Neurotoxin prepd. from pathogenic Escherichia coli - 13983A/08
COLG 20.01.72 COLGATE PALMOLIVE CO D21 E14 = IT 1047-130
Aromatic peracids aqs solns - 44513U/32
COLG 27.09.74 COLGATE PALMOLIVE CO D22 = IT 1047-060
Contoured disposable diaper with side panels - 81150W/49
COLG 06.04.79 COLGATE PALMOLIVE CO D25 = DK 8000-485
Detergent compsns. contg. zeolite and alkylbenzene sulphonate - 46266C/27
COLG 06.04.79 COLGATE PALMOLIVE CO D25 = FR 2449-123
Detergent compsns. contg. zeolite and alkylbenzene sulphonate - 46266C/27
COLG 06.04.79 COLGATE PALMOLIVE CO D25 = NO 8000-424
Detergent compsns. contg. zeolite and alkylbenzene sulphonate - 46266C/27
COLG 06.04.79 COLGATE PALMOLIVE CO D25 = SW 8001-078
Detergent compsns. contg. zeolite and alkylbenzene sulphonate - 46266C/27
COLT- 30.06.77 COLTENE AG A96 D21 S02 (A26) = DS 2747-811
Silicon compsn. for showing pressure spots under dentures - 02160B/02
COMM- 17.11.75 COMMUNITY BLOOD NY B04 D16 = SU -728-720
Viral hepatitis vaccine - 57893X/31
CORA- 08.02.79 CORAZZA NATALINO SP D11 #FR 2448-479
Production of soup noodles from dough - 60579C/35
*CORN/ 12.03.79 CORNELL J A A96 B04 D13 (D21) *US 4233-288
Chewing gum emulsified liquid compsn. - 86231C/48
*CRDC 14.05.79 CORDIS CORP A88 D15 J01 *DT 3017-634
Hollow fibre element for ultrafiltration etc. - 84773C/48
*CROP= 22.11.78 CROP PROTECT RES C03 D13 *SU -728-808
Nutrient for growing predatory beetle cryptolemus larvae - 85961C/48
CWMB 04.04.79 CHEM W MUNCHEN BARL D25 E12 = DT 2913-592
Prodn. of fatty acid soaps in granular form - 79208C/45

*DAMB- 23.03.79 DAMBACH-WERKE GMBH D15 *DT 2911-399
Treating metal-contg. sewage sludge - 84522C/48
DAMO- 28.03.79 DAMON CORP A96 B04 D22 = DT 3012-233
Encapsulating living tissue, protein etc. in membranes - 73451C/42
DANA 27.10.77 DANFOSS A/S D15 E36 J04 S03 = US 4233-143
Polarographic measurement of oxygen in liquids - 35501B/19
*DCAF 28.09.78 DCA FOODS INDS INC D14 *US 4233-016
Extrusion apparatus for forming food rings - 86114C/48
DECA- 07.02.79 DEUTSCHE CARBONE AG D15 J03 X25 = FR 2448-509
Electrochemical cell for purificn. of waste water - 60582C/35
DEER- 02.05.79 DEER PARK BAKING CO D11 = DT 3013-085
Cookie mfg. appts. with transfer conveyor - 80648C/45
DEGM 19.09.74 DEGREMONT SA D15 = IT 1047-407
Oxygenation appts. for waste water and sewage - 81496W/50
*DEGM 13.02.79 DEGREMONT SA A97 D15 J01 *FR 2448-939
Sepn. of colloids from aq. medium by flotation - 84901C/48
DEGS 02.10.74 DEUTSCHE GOLD & SILBER D15 J01 = IT 1047-260
Hydrated zeolite molecular sieves for softening water - 30126X/17
DEGS 04.07.75 DEUTSCHE GOLD & SILBER D13 E16 = JB 0042-986
Optically pure N-acetyl L-methionine prepn. in high yields - 05599Y/04
*DEMY/ 03.01.77 DEMYANOVICH E P D13 *SU -728-824
Adding tripoli to food for ruminants - 85974C/48
*DENE/ 12.01.78 DENEFE J C D12 X25 *US 4232-424
Carcass evisceration plant - 86057C/48
DENK 31.03.76 TDK ELECTRONICS KK A97 B04 D16 (A91) = JB 0042-628
Enzyme immobilisation - 74422Y/42
*DENT- 03.05.79 DENTAL THERAPEUTICS D21 *WP 8002-371
Plaque-dissolving tooth-paste - 86329C/48
*DESP 01.11.76 DESOTO INC A97 D25 E37 (A25) *US 4233-171
Dishwashing detergent compsn. effective at low temp. - 86188C/48
*DESP 01.11.76 DESOTO INC A97 D25 E34 *US 4233-172
Low phosphate content dish-washing powder compsn. - 86189C/48
DIDI 17.05.79 DIDIER-WERKE AG D15 H05 J01 = DT 2920-010
Removal of oil pollutants from water - 67792C/39
DOWO 12.03.79 DOW CORNING CORP D22 E19 = BR 8001-431
Modifying surfaces to reduce microorganisms in the environment - 62273C/36
DRAG- 26.06.78 DRAGOCO GERBERDING D23 E15 = DL -144-358
2,2,3-tri:methyl-cyclopent-3-ene(s) - 02270C/02
DREV/ 23.07.71 DREVICI U C03 D13 = IT 1047-126
Processing of cacao fruit - 27546U/20
DULG/ 01.02.79 DULGER V D15 E36 = DS 2903-772
Processing and disinfecting recycle water - 57043C/33
*DUPO 13.07.76 DU PONT DE NEMOURS CO B04 D16 *US 4233-403
Rapid determn. of amylase - 86274C/48
*DYNL 08.12.76 DYNAPOL A14 D13 E24 (A97) *US 4233-328
Yellow coloured edible materials - 86245C/48

EAUG- 03.10.74 EAU GAEZ ASSAINISSE D15 = IT 1047-302
Coarse screening grid with moving teeth - 64980X/35
*EBAI 05.03.79 EBARA INFILCO KK A97 D15 E36 *J5 5132-685
Removal of silicic acid from water by contacting with aluminium metal - 85162C/48
*EBAI 03.04.79 EBARA INFILCO KK D15 *J5 5132-625
Device for agglomerating suspended solids in liq. waste - 85142C/48
*EBAI 04.04.79 EBARA INFILCO KK D15 *J5 5132-607
Adsorbing organic substance from soln. - 85126C/48
*EBAI 05.04.79 EBARA INFILCO KK D15 *J5 5134-689
Removing impurities from condensates to prevent scaling and corrosion - 85535C/48
*EBAI 07.04.79 EBARA INFILCO KK D15 J01 *J5 5134-687
Solidification of finely powdered waste e.g. from furnace - 85533C/48
*EBAI 09.04.79 EBARA INFILCO KK D15 J01 *J5 5134-619
Dewatering sludge and slurry - 85509C/48
*ECKE/ 03.11.76 ECKES P D16 *US 4233-407
Apparatus for continuous fermentation of liquids - 86277C/48
ELSP/ 29.09.78 ELSPASS R D14 = DL -138-596
Germ redn. in protein suspensions - 13034C/08
ENIE- 15.02.79 ENI ENTE NAZ IDROCA A97 B04 D16 = FR 2448-971
Microporous products contg. active ingredient e.g. enzyme - 60793C/35
ENVI- 15.12.69 ENVIROGENICS SYSTEM D15 J01 (J08) = DS 2053-544
Distillation appts heat transfer surface - 42330S/25
*ERAP 08.02.79 ELF FRANCE A88 D15 J01 *FR 2448-508
Oil removal from waste water - 84855C/48
*ESIT= 13.05.77 E SIBE TECHN INST B02 D16 (B03) *SU -726-161
Corynebacterium species strain - 85749C/48
ETHI 25.09.74 ETHICON INC A96 D22 F07 K08 (A18 A35) = IT 1047-091
Needle with detachable suture - 24120X/13

*ETHY 08.05.79 ETHYL CORP B05 D16 *WP 8002-421
Sepn. of D,L-phenylalanine ester into D and L isomers - 86346C/48
EVER- 12.12.75 EVEREX CORP D11 #DS 2555-929
Strudel leaf dough sheets prodn. - 16880Y/10
EWOS 02.04.79 EWOS AB A96 B04 C03 D22 = DK 8001-401
Iodophor containing udder disinfectant - 77575C/44
EZUS- 12.02.79 EZUST KALASZ MEZOGAZDASA C03 D13 #FR 2448-297
Feedstuff, esp. feed concentrate prodn. - 60623C/35

FABR 27.10.72 FABRE P SA D21 E14 = IT 1047-472
UV filter contg. 3-carboxy-4-hydroxy-benzophenone - 76231V/44
FARB 15.02.74 BAYER AG A23 D15 J01 (A91) = US 4233-431
Polycondensates as metal-absorbents, coatings, stabilisers and cats - 58976W/36
FARB 07.05.77 BAYER AG A60 B02 C02 D13 (D22) = GB 1579-799
Antibacterial, growth promoting penicillin and cephalosporin cpds. - 82442A/46
FARB 06.02.79 BAYER AG D15 = DT 2904-335
Biologically purifying nitrogen cpd. contg. waste water - 60840C/35
FARB 06.03.79 BAYER AG A82 D18 G02 (A25) = BR 8001-312
One-component lacquer for leather coating - 66303C/38
FARB 07.03.79 BAYER AG D18 = BR 8001-342
Spray-dried age-resistant chromium tanning agent - 67880C/39
FARB 10.03.79 BAYER AG C02 D22 E13 F06 (C03 E14 F09) = BR 8001-368
Synergistic microbicidal compsns. - 34789C/20
FARB 10.03.79 BAYER AG C02 D22 E13 F06 (C03 E14 F09) = SF 8000-714
Synergistic microbicidal compsns. - 34789C/20
FARB 03.04.79 BAYER AG A96 D21 E17 (A14) = J5 5133-406
Polymer and monomer-comprising cold-hardening dental compsn. - 77397C/44
FARB 05.04.79 BAYER AG B02 C02 D22 E13 = J5 5133-363
Halo-, nitro- or tri:fluoromethyl-substd. 2 sulphonyl-quinoxaline(s) - 75495C/43
*FARB 10.05.79 BAYER AG B03 D02 *DT 2918-896
Antimycotic compsn. for human or veterinary medicine - 84587C/48
FARH 24.03.75 HOECHST AG A97 D12 (A11 A14) = US 4233-341
Regenerated cellulose casings for meat products - 75687X/41
FARH 03.03.79 HOECHST AG C02 D22 E13 = BR 8001-203
Fungicidal 2-phenyl-3,3-bis-triazolyl-propionic acid ester(s) - 69838C/40
FARH 03.03.79 HOECHST AG C02 D22 E13 = BR 8001-231
Fungicidal phenyl-beta-triazolyl or imidazolyl acrylic acid derivs. - 69837C/40
FARH 12.03.79 HOECHST AG D15 E36 = BR 8001-427
Converting phosphoric acid purificn. extn. residue to solid waste - 69851C/40
FARH 12.03.79 HOECHST AG D15 E36 = SF 8000-729
Converting phosphoric acid purificn. extn. residue to solid waste - 69851C/40
FARM 12.04.79 FARMITALIA ERBA C D22 F03 = SW 8002-768
Stretch bandage mfr. - 79122C/45
*FEIG/ 01.09.77 FEIGE H A D13 *CA 1088-806
Dry powder spice mixt. - 84408C/48
FERR/ 10.08.76 FERRUTI P A96 B04 C03 D13 (D21) = CA 1088-926
Non-toxic polymer used in cosmetics, medicine and foods - 14405A/08
FIAT 24.10.75 FIAT SPA D16 = IT 1047-227
Municipal refuse homogenisation and sterilisation - 34741Y/20
FIRM 16.03.78 FIRMENICH SA B02 D13 E13 = US 4233-332
1,6-Naphthyridine and alkyl derivs. - 72125B/40
*FISH= 04.10.77 FISHING IND FLEET D11 *SU -728-816
Dough mfr. of cylindrical envelopes for filling with stuffing - 85966C/48
*FISK- 03.05.79 FISKERITEKNOLOGISK D12 *DT 3015-088
Removal of fat, intestines etc. from fish - 84727C/48
*FJIE 05.04.79 FUJI ELECTRIC CO LTD D15 *J5 5134-700
Control of carbon source introduction - 85538C/48
*FMCC 29.03.79 FMC CORP D13 *J5 5132-687
Reduction of tri:halomethane(s) in beverage soln. - C/48
FMCC 02.04.79 FMC CORP B04 D16 J04 S03 = DK 8001-396
Device for delivering reagent(s) to a liq. assay medium - 77480C/44
FRAN/ 09.09.76 FRANKL G P C03 D15 (D13) #CA 1088-876
Conversion of animal waste to animal feed - 77250X/41
FREU 11.02.77 FREUDENBERG, CARL FA D21 = DS 2705-669
Water soluble keratin hydrolysate prodn. - 60607A/34
FREU 11.02.77 FREUDENBERG, CARL FA C03 D13 = DS 2705-671
Processing waste skin prods. to fats and protein hydrolysate - 60609A/34
FRIE- 10.02.79 FRIEDRICHSFELD GMBH D22 L02 = FR 2448-342
Artificial ear bone - 61647C/35
*FRIN- 08.02.79 ETAB FRINGAND D11 *FR 2448-694
Retractable ramp for doorway of baker's bread oven - 84874C/48
FRRR 24.10.75 FERRERO E C SPA D13 = IT 1047-228
Confectionery with liquid-filled centres prodn. - 52644Y/30
FRYL- 15.02.79 FRY-LINER ENTR D14 J01 = FR 2448-928
Filter for removing impurities from liquids partic. cooking oil - 41515C/24

*FUKU/ 31.03.79 FUKUI S D16 *J5 5131-391
Heat resistant cellulase prodn. - 85036C/48
FURM 16.11.76 FURUKAWA MINING CO LTD D15 J01 = J5 3062-371
Solid waste feed tank - 85570C/48
*FURM 16.11.76 FURUKAWA MINING CO LTD D15 J01 *J8 0042-848
Solid waste feed tank - 85570C/48
FURU 06.04.79 FURUKAWA ELECTRIC CO A35 D15 J01 = J5 5134-694
Nitrite ion-contg. waste water treatment - 11392C/07

*GARU- 08.06.79 INST GARUNGS & GETR B05 C03 D13 *DL -144-230
Pelleting animal or vegetable material - 84437C/48
*GAUT/ 25.07.79 GAUTHIER R H D13 *BE -884-429
Pasteurisation etc. of food prods. by high intensity ir rays - 84400C/48
GENA 03.01.78 GAF CORP A60 D25 E16 = US 4233-229
Salt-free N-acyl taurine prepn. - 52918B/29
GENO 24.11.72 GENERAL FOODS CORP D13 = IT 1047-006
Protein-rich fibrous meat and fish substitute - 41958V/23
GENO 05.11.75 GENERAL FOODS LTD D13 = CA 1088-805
Instant custard powder contg. sugar and starch - 16900Y/10
GENO 07.01.76 GENERAL FOODS LTD D13 = CA 1088-804
Purine compsn. prodn. - 62213Y/35
GENO 30.12.76 GENERAL FOODS CORP D13 (D12) = CA 1088-800
Simulated bacon prodn. with fat and lean phases - 32122A/18
GENO 06.01.77 GENERAL FOODS LTD D13 #US 4232-598
Aromatic coffee constituents - 52544Y/30
GENO 28.09.77 GENERAL FOODS CORP D13 = CA 1088-802
Decaffeination of tea and coffee extracts - 68805A/38
*GENO 27.12.77 GENERAL FOODS CORP D13 *CA 1088-803
Pre-cooked frozen rice prodn. - 84407C/48
GENO 12.04.79 GENERAL FOODS CORP D13 E14 = SW 8001-686
Chewing gum having sweetness retention on prolonged storage - 58788C/34
*GESJ 07.12.76 GENERAL SIGNAL CORP D15 *CA 1089-128
Organic waste treatment process by flocculation - 84413C/48
*GHOR= 30.03.78 GEOR HORTIC VINICUL D16 *SU -727-684
Stabilisation of alcoholic drinks - 85856C/48
*GIES/ 19.05.79 GIESSLER H D11 *DT 2920-417
Coated bread products - 84692C/48
GILL 16.02.77 GILLETTE CO D21 E12 = CA 1088-866
Stabilised aq. alkaline stannite depilatory compsn. - 25657B/13
*GILL 19.04.79 GILLETTE CO A14 D21 (A96) *GB 2047-252
Vinyl imidazoline or tetra:hydro:pyrimidine polymers - 84969C/48
GILM/ 24.08.78 GILMOUR N J L B04 C03 D16 = DK 8001-764
Pasteurellosis vaccine for cattle and sheep - 07364C/05
GIVA 10.09.69 GIVAUDAN L & CIE SA D23 E15 (D13 D21 D25 E17) = DS 2043-341
New mercapto-or alkylthio terpnoids - 18899S/10
GIZA- 09.05.79 GIZA SPA C04 D16 E17 H06 (D15) = DT 3017-611
Methane and agricultural fertiliser sludge prodn. - 67763C/39
GIZA- 09.05.79 GIZA SPA C04 D16 E17 H06 (D15) = DT 3017-642
Methane and fertiliser sludge produced from animal farm effluent - 67764C/39
*GLAH/ 12.05.79 GLAHN H D15 *DT 2919-221
Revolving biological trickle drum - 84611C/48
*GOEL- 02.05.79 LAB GOELLA B04 D16 S03 (S05) *WP 8002-460
Determining serum apoprotein by competitive binding reaction - 86359C/48
*GOOK- 28.03.79 GOO KAGAKU KOGYO KK A87 D25 F06 (A23) *J5 5132-774
Laundry sizing agent compsn. esp. for polyester blends - 85183C/48
*GOOK- 28.03.79 GOO KAGAKU KOGYO KK A87 D25 F06 (A23) *J5 5132-775
Laundry sizing agent compsn. - 85184C/48
*GPOL= 12.05.78 GEOR POLY D14 *SU -728-821
Heat treatment equipment for thermally sensitive materials - 85971C/48
GRAI 17.02.69 GRAIN PROCESSING CORP D13 = DS 2004-716
Sepn of a protein from a plant or microbial - 59372R/33
GREN/ 13.02.79 GRENET E P C04 D15 E37 = FR 2449-255
Simultaneous prodn. of energy, water and by products for fuel - 60935C/35
*GROT- 11.07.79 GROTHE SCHOKOLADEN D13 *DS 2927-945
Marzipan mfg. line - 84517C/48

HAGE/ 05.03.79 HAGER B O C03 D22 E14 F09 (C01 E12) = SF 8000-547
Wood treatment with aq. preservative emulsion - 68029C/39
*HAHN/ 26.07.79 HAHNEFELD H B04 C03 D16 *DL -144-359
Vaccine against tumours caused by retro-viruses - 84468C/48
*HALL= 22.11.76 HALLURGY RES INST D15 *SU -728-923
Centrifugal suspensions separator for removing heavier particles - 86029C/48
HAMW- 22.11.78 HAMWORTHY ENG LTD D15 #US 4233-155
Anaerobic treatment of natural organic waste - 34929C/20
*HAYA/ 31.03.79 HAYAKAWA T D15 J01 *J5 5132-614
Filtering method - 85132C/48
HAYB 31.01.74 HAYASHIBARA SEIBUTS D16 (D17) = J8 0042-635
Pullulane purificn. by adding partially water sol. solvent - 77448W/47
HAYB 20.03.79 HAYASHIBARA SEIBUTS D16 (D17) = DT 3010-790
Fixed enzyme for prepn. of prod. from starch - 79863C/45

HAZA- 19.11.76 HAZAMA GUMI KK D15 = J5 3063-752
Sludge compression tube - 85567C/48
*HAZA- 19.11.76 HAZAMA GUMI KK D15 *J8 0042-845
Sludge compression tube - 85567C/48
*HELM= 18.01.79 HELMINTHOLOGY INST C03 D16 *SU -726-164
Nutrient medium for entomopathogenic nematode growing - 85752C/48
HENK 28.09.73 HENKEL KG AUF AKTIEN D16 = DS 2348-807
Potassium acid tartrate removal - 24509W/15
HENK 03.10.74 HENKEL & CIE GMBH D25 E37 = IT 1047-271
Pourable agglomerate contg. aluminosilicate calcium binders - 28683X/16
HENK 03.10.74 HENKEL & CIE GMBH D25 E36 = IT 1047-272
Washing household articles by machine in phosphate-free liquors - 28682X/16
HENK 07.03.79 HENKEL KG AUF AKTIEN B01 D16 = BR 8001-330
17C-steroid-alpha-propionic acid cpds. prepn. - 68078C/39
HENK 15.03.79 HENKEL KG AUF AKTIEN D25 E33 = BR 8001-518
Prodn.. of amorphous aluminosilicate suspensions for zeolite mfr. - 75418C/43
HENK 04.04.79 HENKEL KG AUF AKTIEN A97 D23 E19 = J5 5133-308
Stable water-based solns. of essential oils - 75471C/43
HENK 07.05.79 HENKEL KG AUF AKTIEN A97 D25 E19 (A25) = DT 2918-364
Fine textile detergent having softening activity - 82995C/47
*HENK 16.05.79 HENKEL KG AUF AKTIEN D16 *DT 2919-622
Prodn. of stabilised water-soluble enzyme derivs. - 84640C/48
HENU 02.10.74 HENKEL AND CIE GMBH D15 J01 = IT 1047-260
Hydrated zeolite molecular sieves for softening water - 30126X/17
*HIEJ 02.04.79 HITACHI PLANT ENG CONST D15 *J5 5132-613
Sludge dewatering device - 85131C/48
HISM 03.04.79 HISAMITSU PHARM KK A96 B05 D22 = J5 5133-310
Adhesive wound dressings - 76316C/43
*HITA 06.04.79 HITACHI KK D15 *J5 5134-618
Bacteria-contg. sludge concentrator - 85508C/48
*HITA 06.04.79 HITACHI KK D22 E36 *J5 5134-630
Treating malodorous gas - 85518C/48
*HITA 06.04.79 HITACHI KK D15 *J5 5134-699
Biological denitration of waste water - 85537C/48
*HITA 09.04.79 HITACHI KK D15 *J5 5134-613
Controlling pptd. sludge drain rate - 85506C/48
HITA- 31.10.74 HITACHI KIDEN KOGYO D15 = J5 1052-650
Scooping up pptd. sand in pond - 85569C/48
*HITA- 31.10.74 HITACHI KIDEN KOGYO D15 *J8 0042-847
Scooping up pptd. sand in pond - 85569C/48
*HITB 02.04.79 HITACHI CHEMICAL KK D15 *J5 5132-612
Moving bed type filter for treating waste water etc. - 85130C/48
HOKA 28.09.74 HOKKAIDO SUGAR KK D17 = IT 1047-199
Continuous beet sugar prodn. - 20797X/12
HOKK- 21.04.77 HOKKAIDO TOGYO KK D17 E13 = J8 0042-840
Maltose liq. purificn. - 92127A/51
HONS 23.02.79 YAKULT HONSHA KK B04 D13 (D16) = J5 5131-370
Food and drink contg. bifido-bacteria, for bottle fed babies - 62727C/36
HONS 27.02.79 YAKULT HONSHA KK B04 D16 = BR 8001-129
Whole-cell antitumour agent - 65356C/37
*HORI/ 02.05.79 HORIUCHI I C03 D16 *BR 7902-680
Fermented foodstuff for ruminants and its prodn. - C/48
*HORM- 10.05.79 HORMEL G A & CO D12 *DT 2918-829
Animal carcass skinning machine - 84576C/48
*HOSH/ 08.03.79 HOSHINO K D13 (D16) *J5 5132-696
Decolouring agent for waste water - 85166C/48
HOUS- 19.01.73 HOUSE SHOKUHIN KOGY D13 (D16) = J4 9094-867
Prepn. of powder contg. active lactobacilli - 85560C/48
*HOUS- 19.01.73 HOUSE SHOKUHIN KOGY D13 (D16) *J8 0042-627
Prepn. of powder contg. active lactobacilli - 85560C/48
*HUEJ/ 15.02.79 HUE J P D15 J04 S03 *FR 2449-065
Appts. to determine BOD of many samples simultaneously - 84912C/48
HULT/ 05.09.78 HULTMAN T D15 F04 J01 = DK 8001-880
Filtering gases or liquids - 27226C/15
HYDR= 10.04.79 HYDROLYSIS IND B05 D16 E19 #SW 7903-190
Aminoacid fermentation producing microorganism process - 73577C/42

ICIL 31.01.80 IMPERIAL CHEM INDS LTD C03 D13 (D16) = BR 8001-124
Single cell protein from microorganisms - 64623C/37
IDEK 19.01.76 IDEMITSU KOSAN KK A11 B07 C03 D13 (A96 A97 D16) = J8 0042-633
Gel-forming polysaccharide prepd. by Arthrobacter cultivation - 52614Y/30
IMMU- 15.02.79 IMMUNO AG A96 B04 D22 G03 = FR 2448-900
Adhesive for suture-less joining of human or animal tissue - 43329C/25
IMMU- 15.02.79 IMMUNO AG A96 B04 D22 G03 = FR 2448-901
Adhesive for suture:less joining of human or animal tissue - 43330C/25
*IMMU- 30.04.79 IMMUNOLOGY DEV CORP B04 D16 J04 S03 (S05) *WP 8002-459
Blood test for diagnosing multiple sclerosis and malignant disease - 86358C/48
*IMMU- 22.06.79 STAAT INST IMMUNPRA B04 D16 *DL -144-356
Lectin isolation from plant seed extracts - 84467C/48
*INFL 13.09.79 INT FLAVORS & FRAGR INC D13 *US 4233-325
Ice cream carton with compartment contg. frozen syrup - 86244C/48
INNO- 08.06.78 INNOVATIVE CHEM INC D15 E36 K08 = US 4233-126
Ozone production in chemo-nuclear generator - 05441C/03
INTE- 12.02.79 CENT INTERTRADE FIN D15 = FR 2448-507
Activated water prodn. for accelerated growth - 60752C/35
INTM 07.02.79 INT MINERALS & CHEM CORP D22 E16 (E15) = FR 2448-529
Antimicrobial 1-nitroalkyl thiocyanate cpds. - 34490C/19
IRAB- 27.02.70 IRAB INST RECH APPL D13 = DS 2109-345
Water soluble powdered vegetable pro-ducts - 59571S/37
*IROQ- 15.05.79 IROQUOIS CHEMIE GMBH D21 *BE -883-296
Cosmetic compsn. for removing make-up from the face and eyes - 84353C/48
*ISTS 21.08.75 IST SIEROTER VACC SCLAVO B04 D16 *IT 1047-492
Reagent for enzymatic determn. of glucose - C/48
ITAF 08.05.79 ITALFARMACO B04 D16 = NL 8002-658
Reactor for enzyme reactions - 65987C/38
ITPO- 14.02.79 INT POWER TECHN INC A88 D15 J01 (A11 A14 A26) = FR 2448-924
Compound membrane for thermal membrane distn. - 62732C/36
*ITVI- 30.05.78 INT VITAMIN CORP D13 *US 4233-324
Isolated soya protein particles coated with silica - 86243C/48
*IVLI- 06.04.79 IVL INST VATTEN OC D15 *SW 7903-065
Fish farming tank cleansing process - C/48
*IWSN 04.06.76 IWS NOMINEE LTD A35 D15 E17 F06 *GB 1579-923
Redn. of residual chromium content from dye-baths - 84930C/48

JAGN 24.12.77 JAGENBERG WERKE AG D14 S02 = US 4232-802
Automatic dispenser of tiny doses of liq. - 31645B/17
JAGU/ 02.03.77 JAGUSCH L D16 = DL -136-287
Centrifugal pump for fermentation emulsion contg. gas - 60005B/33
JAND/ 04.12.72 JANDOUREK H A91 D21 G03 = IT 1047-127
Primer for improving adhesion of polymers - 43987V/24
*JAOR 02.04.79 JAPAN ORGANO KK D15 E36 *J5 5132-688
Oxidative decomposition of hydrazine in aq. soln. - 85164C/48
JAPC 04.04.79 NIPPON SHOKUBAI KAGAKU A88 D15 J01 (A26) = J5 5132-602
Prodn. of semi-permeable membranes - 73897C/42
*JAPC 06.04.79 NIPPON SHOKUBAI KAGAKU A14 C03 D22 *J5 5133-413
Prodn. of crosslinked polymer of acrylic acid alkali metal salt - 85266C/48
JAPC 06.04.79 NIPPON SHOKUBAI KAGAKU A88 D15 J01 (A26) = J5 5134-607
Prodn. of semi-permeable membranes - 73897C/42
JAPC 10.04.79 NIPPON SHOKUBAI KAGAKU A88 D15 J01 (A26) = J5 5134-602
Prodn. of semi-permeable membranes - 73897C/42
*JOHJ 18.09.78 JOHNSON & JOHNSON A82 D22 F04 (A96) *US 4233-345
Reinforcement of cellulosic air-laid pads - 86250C/48
JOHJ 30.11.78 JOHNSON & JOHNSON A97 D21 E11 (D25) = US 4233-192
Detergent compsns. contg. phospho=betaine(s) or phosphitaine(s) 80844B/45
*JOHN- 14.06.79 JOHNSON S C & SON I A97 D25 E19 *US 4233-167
Aq. stable liq. detergent compsn. - 86187C/48
*JOHO 13.04.77 JOHNSON MATTHEY LTD D21 M26 *GB 1580-132
Silver-tin dental amalgam alloy mixt. - 84943C/48

*KALI 08.06.79 KALI-CHEMIE AG B04 D16 *DS 2923-279
Pancreatin pellets prodn. - 84516C/48
KALL 06.12.72 KALLE AG A97 D12 (A11 A21) = IT 1047-128
Cellulose hydrate hose for sausage mfr - 45545V/25
*KANA/ 06.04.79 KANAI M D15 E35 *J5 5134-688
Adsorption removal of ammonia from water - 85534C/48
KANE- 20.04.77 KANESA MISO KK D13 = GB 1579-992
Granulated bean paste mfr. - 80436A/45
*KARI/ 06.03.79 KARI J D16 E17 *SF 7900-765
Methane prodn. reactor - C/48
KARL/ 06.01.75 KARLSON E L D15 J01 = IT 1047-278
Deionization appts including endless belt ion exchangers - 70456W/42
*KDPO= 15.11.78 KRASD POLY D16 *SU -727-682
Prodn. of sparkling wines - 85854C/48
*KHOR= 21.10.77 KAZA HORTIC VINICUL D16 *SU -727-683
Medicinal strong alcoholic drink - 85855C/48
*KIBU- 27.02.79 KIBUN KK D13 *J5 5131-360
Food additive for improving meat, fish etc. - 85028C/48
*KIFO= 21.11.77 KIEV FOOD IND TECHN D11 *SU -728-818
Bread prod. e.g. bread-roll baking - 85968C/48
KIKK 16.08.73 KIKKOMAN SHOYU KK D13 (D16) = J5 0042-097
Prepn. of soy sauce with high glutamic acid content - 85559C/48
*KIKK 16.08.73 KIKKOMAN SHOYU KK D13 (D16) *J8 0042-618
Prepn. of soy sauce with high glutamic acid content - 85559C/48
KIKK 23.12.75 KIKKOMAN SHOYU KK D13 = J8 0042-621
Seasoning soln. prepn. - 56516Y/32
KIKK 30.11.76 KIKKOMAN SHOYU KK D13 = J8 0042-814
Swelling cereals e.g. rice, corn, soybean etc. - 54427A/30
KIKK 28.03.77 KIKKOMAN SHOYU KK D13 E17 = J8 0042-815
Preventing fungi growth on shoyo or miso - 84592A/47

KIKK 28.03.77 KIKKOMAN SHOYU KK D13 E17 = J8 0042-816
Preventing fungi on soy or miso - 84593A/47
KING/ 19.10.77 KING A S D15 X25 *US 4233-134
Extracting water from aqueous solution - 86166C/48
KIRO 03.05.79 LENINGRAD TEXTILE LIGHT A25 D15 E36 J01 *DT 3016-713
Redox materials - 84750C/48
KIRO= 15.05.78 KIROV POLY D16 E23 *SU -727-663
Synthesis of nitro-fluorescein for indicator mfr. - 85839C/48
KLEI/ 18.06.76 KLEINBERG I B04 D21 = GB 1579-974
Inhibiting development of dental caries - 90025Y/51
KLOS/ 10.05.79 KLOSA J B05 D13 *DT 2919-059
Buttermilk-honey dried prepn. as dietetic foodstuff - 84605C/48
KOBA- 09.04.79 KOBAYASHI KANKYO KA A97 D15 *J5 5134-693
Removing colourants and other organic material from waste water - 85536C/48
KOLL/ 01.09.78 KOLLROSS G D12 = DK 8001-894
Sausage skin mandrel - 18701C/11
KOLM/ 18.05.79 KOLMEL P D12 *DT 2920-048
Ham press - 84670C/48
KOMP= 06.04.78 KOMPLEKS POULTRY D12 *SU -726-158
Recovering fat from animal bones - 85746C/48
KONN 21.10.74 GIST-BROCADES NV B02 C02 D13 = IT 1047-205
Alpha phosphonylureido hydroxybenzylcarbonamido pencillins - 32424X/18
KOTT/ 03.04.78 KOTT R D13 = GB 2047-069
Low calorie crisp, pref. chipped, meat roast snacks - 73782B/41
KOWA/ 15.05.79 KOWALSKY H D13 = BE -883-318
Natural laxative products - 69827C/40
*KULA/ 25.05.77 KULAKOV A F D13 *SU -728-828
Onion roots and stalks removing equipment - 85978C/48
*KUMM/ 18.09.78 KUMMER D A D16 *US 4233-266
Bulk pasteurisation of mushroom compost - 86224C/48
*KUNZ/ 23.11.79 KUNZ P D14 *DS 2947-345
Rotatable pressure vessel - 84520C/48
*KUPO= 22.05.78 KAUN POLY A82 D18 G02 *SU -726-168
Compsn. for imparting pearlised finish to chrome leather - 85754C/48
KURE 06.04.79 KUREHA KAGAKU KOGYO A11 D17 J01 (A91) = DK 8001-478
Crosslinked, carboxy-alkylated and de-acetylated chitin - 79337C/45
KURE 06.04.79 KUREHA CHEM IND KK A11 D17 J01 (A91) = J5 5134-646
Crosslinked, carboxy-alkylated and de-acetylated chitin - 79337C/45
KURK 25.06.76 KURITA KASEN KK D15 E36 = J8 0042-875
Waste liquor treated with hydrogen peroxide soln. - 14743A/08
KURK 29.09.76 KURITA WATER IND KK D15 = J5 3042-441
Appts. for treating liq. or suspension - 85566C/48
*KURK 29.09.76 KURITA WATER IND KK D15 *J8 0042-844
Appts. for treating liq. or suspension - 85566C/48
*KURS 15.04.69 KURARAY KK A88 D22 J01 *J8 0042-854
Air filter - 85572C/48
KURS 02.12.75 KURARAY KK B05 C03 D13 E17 = DT 2660-599
Terpenoid intermediate unsaturated alcohol and ketone derivs. - 42033Y/24
KURS 02.12.75 KURARAY KK B05 C03 D13 E17 = DT 2660-600
Terpenoid intermediate unsaturated alcohol and ketone derivs. - 42033Y/24
*KURS 04.04.79 KURARAY KK D15 J01 *J5 5132-603
Purificn. of water for dialysis purposes - 85122C/48
KYOW 16.07.73 KYOWA HAKKO KOGYO KK B05 D16 E14 = J8 0042-631
L-Tyrosine and L-phenylalanine prodn - 46807W/28
KYOW 18.07.73 KYOWA HAKKO KOGYO KK B05 D16 E16 = J8 0042-630
Fermentative L-threonine prodn - 46805W/28
KYOW 19.03.74 KYOWA HAKKO KOGYO A97 B04 D16 (A11) = J8 0042-629
High activity fixed enzyme prepn. - 76454Y/43
KYOW 19.05.77 KYOWA HAKKO KOGYO B03 D22 E13 = DS 2821-948
Antibacterial amino-glycoside antibiotics XK-62-3 XK-62-4 - 89953A/50

LABO- 20.03.76 LABOR MUSZEPIPARI D22 = SU -728-690
Automatically venting steam steriliser - 69198Y/39
*LAGU/ 08.02.79 LAGUILHARRE P D13 *FR 2448-377
Energy saving evaporating concn. of solns. like skimmed milk - 84848C/48
LANK 19.01.78 LANKRO CHEMICALS LTD A97 D25 = US 4233-174
Cleansing mixt. forming quick-breaking emulsion with oil - 56559B/31
*LARS/ 08.05.79 LARSSON V K A96 D21 *DT 3017-221
Skin-protective coating formation system - 84765C/48
*LAUR/ 02.06.78 LAURENT R R P D11 *FR 2448-863
Bakery dough dividing machine to deliver measured pieces for loaves - 84887C/48
*LEAT= 31.10.78 LEATHER FOOTWRE IND D18 *SU -726-167
Processing raw leather for shoe soles mfr. - 85753C/48
LEBE- 14.03.77 LEBEN UTILITY KK A12 D15 (A60) = J8 0042-957
Moulding compsn. for corrosion resistant structures - 80849A/45
LEGR/ 14.03.79 LEGRAIN M A J D14 S02 T06 = BR 8001-503
Mixing plant for liq. feed for teat fed mammals - 72054C/41
LEHM- 17.03.79 HEIN LEHMANN AG D17 J01 = BR 8001-537
Continuously operating centrifuge for sugar extraction - 67979C/39
*LENL 25.07.77 LENINGRAD FORESTRY ACAD C03 D13 *SU -727-688
Vegetable hydrolysate processing for use in yeast growing - 85860C/48
LEPE 07.04.79 GRUPPO LEPETIT SPA B04 D16 = DK 8001-400
Antibiotic A-16686 obtd. by culturing Actinoplanes strain - 73479C/42
LEPE 07.04.79 GRUPPO LEPETIT SPA B04 D16 = NO 8000-869
Antibiotic A-16686 obtd. by culturing Actinoplanes strain - 73479C/42
LEVA/ 09.10.74 LEVATI R D13 = IT 1047-455
Tomato peeling under vacuum while carried by tray - 41374Y/23
LICE- 06.09.76 LICENTO AG D15 J03 X25 = CA 1088-892
Water chlorination system requiring no supervision - 19930A/11
*LIFO= 06.05.77 LITH FOOD IND MIN D11 *SU -728-823
Confectionery cooler - 85973C/48
*LINM 10.05.79 LINDE AG D15 *DT 2918-950
Treatment of effluent water - 84591C/48
*LINM 18.05.79 LINDE AG D15 *DT 2920-212
High purity water prepn. - 84683C/48
*LIOC 27.04.76 LION DENTIFRICE KK B03 D13 E13 *J5 5131-364
Sweetener which suppresses microbes in mouth, preventing tooth decay - 85030C/48
*LIOY 04.04.79 LION FAT & OIL KK A97 D25 *J5 5133-495
Detergent compsn. comprising anionic and nonionic surfactants - 85324C/48
*LIOY 05.04.79 LION FAT & OIL KK A97 D25 *J5 5133-497
Prodn. of thin flakes of soap - 85325C/48
LOCO/ 16.02.79 LOCOLAS C D11 S02 X25 = FR 2449-273
Automatic volumetric dispenser esp. for dough - 62690C/36
*LUPO- 12.05.79 LUPOFRESH ALLFELD & D16 *DT 2919-232
Water soluble hop bitters prepn. - 84612C/48

*MACC/ 15.05.79 MACCABEZ J D21 E33 *DT 3015-868
Use of antiperspirants as dermatological agents against skin flaking - 84734C/48
MAIS- 25.01.77 MAISON D BOIRON D13 = GB 1580-013
Demoulding frozen fluid esp. food from flexible plastic mould - 28863A/16
MANN- 11.05.79 MANN SCHRODER CHEM B05 D12 E16 (E36) = DT 2919-162
Effervescent bath salts - 65994C/38
MANN- 11.05.79 MANN & SCHRODER KG B05 D12 E16 (E36) = NL 8002-374
Effervescent bath salts - 65994C/38
*MART/ 19.02.79 MARTIN H A B04 D16 *FR 2448-903
Fast acting antimicrobial compsns. - 84893C/48
MATS/ 26.07.71 MATSUMOTO J D21 = J8 0042-965
Dentrifice compsns - 18115V/10
*MEAT= 22.11.78 MEAT IND RES INST D12 *SU -728-819
Sausage meat stuffing, vacuum-treating and pressing equipment - 85969C/48
*MECA- 12.05.79 MECAFINA SA A88 D15 *DT 2919-244
Trickling sewage treatment drum plate - 84614C/48
*MEDI= 15.09.77 MEDICAL ENZYMES ANT D16 *SU -727-685
Curvularia inaequalis 75 fungal strain - 85857C/48
MEDK 02.06.77 MEDICOR MUVEK D14 (D22) #GB 1580-140
Cold chamber esp. meat store, sterilised by negative ions - 20322B/11
*MEJE- 04.05.79 MEJERISELSK DANMARK D13 *WP 8002-361
Coating cheese with protective meltable layer - 86322C/48
MENZ- 02.04.79 MENZEL GMBH D15 = J5 5134-638
Multistage chemical and biochemical processes - 73774C/42
MERE 11.11.76 MERCK PATENT GMBH A96 B05 D22 G03 = US 4233-287
Compsn. contg. polyacrylate or polymethacrylate and antibiotic - 34958A/20
MERI 05.03.79 MERCK & CO INC B04 C03 D16 = J5 5133-319
Immunogenic cell wall fraction of Bordetalla bronghiseptica - 39942C/22
MERI 29.03.79 MERCK & CO INC D13 = J5 5131-352
Rapid setting starch gel confectionery - 65899C/37
MGAF 12.02.75 MAGYAR ASVANYLOLAI FOLDG D15 J02 = SU -728-710
Dispersion of gas in a liq - 66102X/35
MILE 25.09.74 MILES LABORATORIES INC D13 F01 (D12) = IT 1047-098
Wet-spun vegetable protein fibres - 15025X/09
MILE 22.06.78 MILES LABORATORIES INC B04 D16 J04 S03 (S05) = DL - 144-461
Specific binding assay esp. for thyroid hormones - 77212B/43
MILE 23.02.79 MILES LABORATORIES INC B04 D16 J04 S05 (S03) = SF 8000-181
Measurement of glucose in body fluids - 53328C/31
MINU 04.05.79 MINNESOTA UNIVERSITY B04 D16 J01 = WP 8002-380
Fractional pptn. of protein(s) - 82635C/47
MIRA- 23.03.79 MIRA LANZA SPA D25 E19 = GB 2047-264
Washing powder compsn. of low phosphate content - 55257C/32
MITK 05.04.79 MITSUI TOATSU CHEM INC D16 E19 = J5 5133-391
Sugar fatty acid ester purificn. - 77015C/43
MITK 05.04.79 MITSUI TOATSU CHEM INC D16 E19 = J5 5133-392
Sugar fatty acid ester purificn. - 77015C/43
*MITK 09.05.79 MITSUI TOATSU CHEM INC B02 D16 E13 *NL 8002-603
L-Tryptophan prodn. from D.L- or D-serine - 85628C/48
MITN 07.11.74 MITSUBISHI GAS CHEM IND A11 B04 C03 D16 = J8 0042-632
Polysaccharides prepn using novel strain - 49100X/26

MITN 08.02.79 MITSUBISHI GAS CHEM IND D13 E36 = FR 2448-488
Food storage bag contg. oxygen absorbent - 59086C/34
*MITN 29.03.79 MITSUBISHI GAS CHEM IND B05 D16 *J5 5131-385
Coenzyme/Q-10 prodn. - 85033C/48
MITO 19.03.75 MITSUBISHI HEAVY IND KK D15 = J5 1107-657
Sedimentation pond scraper carrier - 85568C/48
*MITO 19.03.75 MITSUBISHI HEAVY IND KK D15 *J8 0042-846
Sedimentation pond scraper carrier - 85568C/48
*MITO 07.04.79 MITSUBISHI HEAVY IND KK D22 J01 *J5 5134-628
Control of deodorising device - 85516C/48
MITP 24.08.78 MITSUBISHI PETROCH KK D23 E13 (D13 D21 D25) = US 4233-226
Perfume component hexa:hydro-benzopyran deriv. - 26418C/15
*MITS- 03.04.79 MITSUBISHI KEIKINZO D15 E37 *J5 5132-686
Treating waste water contg.. aluminium fluoride and alkali fluoride - 85163C/48
MITU 09.03.77 MITSUBISHI CHEM IND KK B05 C03 D16 = J8 0042-838
Polysaccharide having antitumour action - 80948A/45
*MITV 05.04.79 MITSUBISHI METAL KK D15 *J5 5134-611
Dissolving solid agglomerant in waste waters - 85504C/48
*MIUR 02.04.79 MIURA ENG INT KK D15 *J5 5132-609
Water purificn. appts. for fast sludge removal - 85128C/48
*MOAG= 04.01.76 MOSC AGRIC MFG ENG D14 T05 X25 *SU -728-826
Fruit grading method - 85976C/48
MOBI 16.04.79 MOBIL OIL CORP D15 H05 J01 M11 = GB 2047-222
Complex metal cyanide removal from industrial effluent - 81145C/46
*MONS 09.11.78 MONSANTO CO D25 E19 *US 4233-173
Solid detergent compsns. contg. di:potassium chloro-imido-di:sulphate - 86190C/48
*MONS 24.09.79 MONSANTO CO A25 D25 (A97) *US 4233-422
Acetal carboxylate polymer stabilised against alkali depolymerisation - 86283C/48
*MONS 05.11.79 MONSANTO CO A25 D25 (A97) *US 4233-423
Acetal carboxylate polymer stabilised against alkali depolymerisation - 86284C/48
MONT 14.02.79 MONTEDISON SPA A17 D16 F01 (A97) = FR 2448-867
Polyolefin fibres used in sepn. of juice or must from fruit - 60503C/35
MOOC 12.02.79 MO OCH DOMSJO AB D16 = FR 2448-518
Plant for composting organic rubbish - 59105C/34
*MORG 28.06.73 MORINAGA NYUGYO KK C03 D13 (D16) *J8 0042-613
Powdery foodstuff or feedstuff mfr. - 85558C/48
MORT- 23.02.79 MORTEN ENGEBRETSEN D15 = SF 8000-354
Double chamber separator to remove oil from water - 64386C/37
*MORT- 06.04.79 MORTEN ENGEBRETSEN D15 *NO 7901-172
Biorotor - C/48
*MOSN 13.09.77 MOSCOW NAT ECONOMY INST D14 *SU -728-832
Food-cooking boiler - 85981C/48
MRSC 17.06.76 MARS INC C03 D13 = GB 1579-926
Stabilisation of protein foodstuff of high water content - 90052Y/51
MUHL/ 19.04.79 MUHLEMANN H R B05 D21 = GB 2047-091
Oral compsns. for neutralisation of dental plaque acid - 77286C/44

NAAR 12.10.77 NAARDEN INT NV C03 D15 (D13 D17) = US 4233-406
Treatment of waste water from wheat starch prodn. plant - 31944B/17
*NAEQ- 10.05.79 NAT EQUIP CORP D14 *WP 8002-363
Food oven with controlled atmosphere - 86324C/48
NAGA 08.03.79 VEB KOMBINAT NAGEMA D13 = BR 8001-327
Automatic lollipop mfg. attachment - 53441C/31
*NAGA- 05.04.79 NAGASAKI-KEN D15 J01 M25 *J5 5134-640
Heavy metal adsorbent prodn. - 85525C/48
*NAHR- 20.06.79 NAHRUNGSGUTERMASCH D12 *DL -144-355
Portioned filling of sausage meat - 84466C/48
NAKA- 04.06.76 NAKANO SU TEN D13 (D16) = J8 0042-622
Storage stable syoyu prepn. - 07568A/04
NAKA- 30.06.78 NAKANO SU-MISE KK D13 = J5 5021-703
Prepn. of soy sauce or seasoning contg. soy sauce - 85562C/48
*NAKA- 30.06.78 NAKANO SU-MISE KK D13 *J8 0042-812
Prepn. of soy sauce or seasoning contg. soy sauce - 85562C/48
NAKA- 22.08.78 NAKANO SU-MISE KK D13 = J5 5029-927
Storage stable soya sauce prepn. - 85563C/48
*NAKA- 22.08.78 NAKANO SU-MISE KK D13 *J8 0042-813
Storage stable soya sauce prepn. - 85563C/48
NATR 24.03.76 NATIONAL RES DEV CORP D15 J02 = GB 1580-211
Minute gas bubble prodn. - 72786Y/41
NATR 03.05.77 NATIONAL RES DEV CORP D15 J01 = GB 1579-885
Countercurrent decantation for liquid treatment of solids - 82554A/46
NATR 02.05.79 NATIONAL RES DEV CORP B04 D16 = WP 8002-433
Rapid identification of bacteria - 83066C/47
NATT 11.09.72 NAT STARCH & CHEM CORP A11 D17 E19 (D13) = IT 1047-129
Double inhibited starches - 23349V/13
NATT 08.09.75 NAT STARCH & CHEM CORP D17 = J8 0042-640
Non-chemically inhibited starch prodn - 70247X/37
NDKE 04.04.79 NORDISK DROGE & KEM B04 C03 D16 = DK 7901-383
Vaccine against pleuro-pneumonia in pigs - 73472C/42

NEST 21.11.72 SOC PROD NESTLE SA D13 = J8 0042-810
Porous, expanded meat-like food mfr - 36485V/20
NEST 09.02.79 SOC PROD NESTLE SA D13 E37 = FR 2448-298
Oligo element caseinate(s) for use in food prods. - 53327C/31
*NIJH- 10.05.79 MACH NIJHUIS G J BV D12 *NL 7903-677
Conveyor in abattoir stunning machine - 85614C/48
*NIJH- 10.05.79 MACH NIJHUIS G J BV D12 X25 *NL 7903-678
Automatic stunning of animals for slaughter - 85615C/48
*NIJH- 10.05.79 MACH NIJHUIS G J BV D12 X25 *NL 7903-680
Electrical stunning machine for beasts, to be slaughtered - 85616C/48
*NIJH- 10.05.79 MACH NIJHUIS G J BV D12 X25 *NL 7903-681
Electrical stunning of beasts esp. pigs for slaughter - 85617C/48
*NIOF 06.04.79 NIPPON OILS & FATS KK D13 E19 *J5 5133-480
Antioxidant compsn. - 85316C/48
NISB 17.10.74 JAPAN TOBACCO & SALT PUB D18 = IT 1047-178
Tobacco products and tobacco substitutes - 32268X/18
*NISC 05.04.79 NISSAN CHEM IND KK D15 E19 F09 (E33 E36) *J5 5132-698
Scale formation prevention - 85167C/48
*NISE- 30.03.79 NIPPON SEIFUN KK D11 E19 *J5 5131-340
Quality improving agent for use with flour - 85026C/48
NISH/ 21.01.78 NISHIDA S D12 = J8 0042-819
Preventing denaturing of actomyosin when freezing minced fish - 66980B/37
NISI 15.07.75 NISSHIN STEEL KK D16 (D13) = J8 0042-634
Microbial prodn. of xanthane gum - 17271Y/10
*NISI/ 08.05.79 NISHI A D22 *DT 3017-077
Dental tool sterilisation appliance - 84759C/48
*NISO- 05.04.79 NIPPON SOLID KK A97 D15 J01 *J5 5134-612
Collecting mud by sedimentation appts. - 85505C/48
NISW 11.07.77 NISSHIN OIL MILLS KK D23 = J8 0043-040
Purifying colza oil - 21088B/11
*NISY 30.03.79 NIPPON SYNTH CHEM IND A35 D22 F01 (A14) *J5 5132-713
PVA-based, high absorbent fibrous material prodn. - 85170C/48
NITT 13.02.79 NITTO CHEM IND KK A14 D16 E16 = FR 2449-124
Stable aq. (meth)acrylamide soln. prepn. - 60750C/35
*NITT- 10.04.79 NITTO KAKO KK D15 *J5 5134-614
Waste water filter system - 85507C/48
*NIUS 05.04.79 NIPPON SUISAN KAISHA A11 B04 D21 *J5 5133-401
High purity particulate chitin prepn. - 85257C/48
NMHB 02.11.77 NORDISCH MASCH R BAADER D12 #SU -728-688
Fish filleting machine - 42333A/24
NODA 11.09.74 NODA INST SCI RES D16 (D13) = J8 0042-619
Enzymatic agent for brewing soy sauce - 33128X/18
*NODA- 22.06.64 NODAWAY VALLEY FOOD D13 *IT 1047-001
Prepn. of sterilised, canned milk products - C/48
NOUN 02.04.79 NORTHWESTERN UNIV D22 = US 4233-263
Maintaining bacterial sterility in urine collection bags - 58767C/34
NOVO 09.04.79 NOVO INDUSTRI A/S D16 (D13) = SW 8002-643
De-stabilisation of microbial rennin - 75331C/43
*NURA= 21.12.78 N URALS REG AGRIC D14 *SU -728-829
Rough animal feedstuff production equipment - 85979C/48

*OCEA- 20.04.79 OCEAN SPRAY CRANBER D13 *GB 2047-068
Decolourisation of pink grapefruit juice - 84953C/48
*ODFO= 26.01.77 ODESS FOOD IND TECH D13 *SU -725-952
Margarine packer - 85732C/48
*OJIP 31.03.79 OJI PAPER KK D16 E17 J01 *J5 5131-396
Prodn. of non-odorous di:methyl sulphoxide and di:methyl sulphone - 85038C/48
*OKRE- 19.03.79 STROJOPRAV OKRESNI D15 *DT 3010-538
Nitrate removal from water by ion exchange - 84710C/48
*OLIN 16.11.78 OLIN CORP A14 D15 (A88) *US 4233-265
Liq. polymer hydration appts. - 86223C/48
*OLIN 02.07.79 OLIN CORP D25 E12 *US 4233-444
Continuous mono:alkali metal cyanurate prodn. - 86293C/48
*OMNI 02.08.78 OMNIUM DASSAINISSE D15 *FR 2449-066
Denitrification of water by passing through bacterial clay bed - 84913C/48
OREA 26.06.73 L'OREAL SA A96 D21 (A14) = US 4233-430
Polymers absorbing ultraviolet radiation - 82954Y/47
OREA 22.02.74 L'OREAL SA A96 D21 E24 (E23) = US 4233-241
N-alkyl-monosubstd. diphenylamines from indoanilines - 59142W/36
OREA 27.09.74 L'OREAL SA A96 D21 E21 = IT 1047-201
Hair dyeing compsn contg azo dyes from 3 aminopyridine cpds - 28294X/16
OREA 23.06.78 L'OREAL SA A96 D21 = FR 2448-346
Cosmetic compsn. contg. tetra:polymer - 01949C/02
OREA 08.02.79 L'OREAL SA A14 D21 (A96) = FR 2448-549
N-vinyl-pyrrolidone copolymer - 58751C/34
*OREA 03.05.79 L'OREAL SA D21 E14 *DT 3016-999
Strengthening and revitalising brittle finger nails - 84752C/48
OREA 04.05.79 L'OREAL SA A96 D21 (A14) = DT 3017-017
Modifying cosmetic oils by grafting with specified hydrophilic monomer 82639C/47

*OREA 15.05.79 L'OREAL SA D21 *BE -883-265
Cosmetic compsn. for the hair, pref. a shampoo - 84341C/48
*OREA 15.05.79 L'OREAL SA A96 D21 *BE -883-266
Cosmetic compsn. for washing and combing out hair - 84342C/48
*OREA 15.05.79 L'OREAL SA D21 *BE -883-296
Cosmetic compsn. for removing make-up from the face and eyes - 84353C/48
*ORIE 11.08.79 ORIENTAL METAL SEIZ KK D15 *DT 3010-042
Water distillation system - 84709C/48
*OSAO- 23.04.79 OSAKA OXYGEN IND A97 D22 J01 *GB 2047-217
Deodorisation of waste gas by contact with hypochlorite soln. - 84965C/48
*OSAT/ 29.04.79 OSATO A' D14 *WP 8002-362
Compression moulded feed e.g. straw prodn. - 86323C/48

*PADA/ 12.05.78 PADARYAN E M D13 S03 *SU -728-084
Assessing commercial value of coffee - 85951C/48
*PAPE- 07.05.79 FED PAPER BOARD CO D11 *DT 3017-510
Pastry box container - 84771C/48
*PAPI- 07.04.79 PAPIER KUNSTSTOFF D22 S05 X25 *DT 2914-075
Radiation system for sterilising cardboard milk cartons - 84524C/48
PASE 27.04.76 PASSAVANTW MICHELBACHER D15 J01 = CA 1088-874
Plate filter press esp. for sludge drying - 81345Y/46
*PATE- 10.09.76 PATENT TECHNOLOGY D11 *US 4233-321
Prepn. of white pan bread or rolls - 86241C/48
*PATE- 10.09.76 PATENT TECH INC D11 *US 4233-330
Prepn. of yellow, white and devil's food cakes - 86247C/48
PATP- 02.09.77 PATPAN INC D18 J08 = GB 1579-918
Flat material drying machine - 20291B/11
PERF- 12.02.79 PERFLUKTIV CONSULT D11 = FR 2448-295
Baked article e.g. bread prod. system - 61645C/35
*PERR/ 11.05.78 PERRINE P M D14 *US 4232-597
Food smoking enclosure with separate smoke unit - 86076C/48
PFIZ 17.10.73 PFIZER INC B02 C02 D22 E13 = SF 8002-003
6-Amino-2,2-dimethyl-3-(tetrazol-5-yl)-penam derivs. - 29076W/18
PFIZ 07.02.77 PFIZER INC D11 = GB 1580-015
Flour substitute compsn. for reducing food calorie content - 59085A/33
PFRE/ 16.05.79 PFRENGLE O D25 E34 = DT 2919-685
Highly soluble, finely agglomerated detergent prodn. - 22463C/13
*PHAS 16.05.79 PHARMASCIENCE LABS D22 E16 *DT 3011-714
Sterilisation or disinfection of appts. e.g. dairy equipment - 84716C/48
PHIM 15.08.75 PHILIP MORRIS INC D18 (D17) = SU -728-689
Tobacco substitute material - 13296Y/08
PHYL- 25.09.75 PHYLAXTA LTOANYAG C03 D13 #IT 1047-200
Water-sol. powdered blood prepn. - W/26
PITT- 27.09.74 PITTSBURGH ENVIRONM D15 H09 J01 M12 (M14) = IT 1047-092
Treating waste solns. of acids and salts - 30461X/17
*POKK 03.04.79 POLA KASEI KOGYO KK A60 D21 E37 G01 (G02) *J5 5133-462
Pigment compsn. suitable for cosmetic use - 85305C/48
POLA 08.01.71 POLAK'S FRUTAL WORKS INC D13 E13 = J5 5131-363
Sulphur derivs of furans or thiophenes - 49287T/31
POTT/ 15.09.75 POTTHARST J E D15 #IT 1047-111
Seawater distillation by vertical tube evaporator - 07281Y/04
POUE 29.12.77 POUDRES & EXPLOSIFS D23 E14 = US 4233-463
2,4-di:nitro-6-tert-butyl-3-methyl-anisole from nitration mixts. - 53862B/29
*PRES- 06.04.79 PRESTIGE GROUP LTD D15 X27 *GB 2047-117
Pressure cooker with electrical heater - 84958C/48
PROC 23.02.73 PROCTER & GAMBLE CO D13 = IT 1047-132
Hypocholesterolaemically active edible oils - 64952V/37
PROC 09.04.73 PROCTER & GAMBLE CO D21 = IT 1047-133
Dental care compsn. contg. amorphous silica - 74670V/43
PROC 17.09.74 PROCTER & GAMBLE CO A25 D22 (A96) = IT 1047-109
Cellular poly-urethane particles treatment with liquid lubricant - 24866X/14
PROC 13.02.76 PROCTER & GAMBLE CO D25 E34 = CA 1088-839
Granular detergent compsn. esp. for dishwashers - 25052A/13
PROC 20.05.76 PROCTER & GAMBLE CO D25 E13 F06 = US 4233-451
Imidazolinium quaternary salts free of unreacted amines, prepn. - 82976Y/47
*PROC 31.08.77 PROCTER & GAMBLE CO D25 E17 *US 4233-235
Continuous aliphatic di:peroxy-carboxylic acid prodn. - 86213C/48
PROC 06.02.79 PROCTER & GAMBLE CO D21 E34 (E12 E35) = J5 5133-496
Soap bar contg. potassium soap and chloride ions - 60877C/35
PROC 05.03.79 PROCTER & GAMBLE CO A32 D22 (A96) = BR 8001-307
Fibre simulating moisture transmitting thermoplastics film - 79282C/45
PROV- 12.04.79 PROVESTA CORP C03 D16 (D13) = GB 2047-268
Prodn. of single cell protein material - 79213C/45
PROV- 12.04.79 PROVESTA CORP C03 D16 (D13) = NO 8001-065
Prodn. of single cell protein material - 79213C/45
*PRUN/ 16.08.78 PRUNET A D16 *FR 2449-054
Wine making vessel with discharge screw conveyor in base channel - 84910C/48

QPPP 02.07.73 Q.P. CORP D12 (D16) = J5 0019-959
Canned poultry meat prodn. - 85557C/48

*QPPP 02.07.73 Q.P. CORP D12 (D16) *J8 0042-609
Canned poultry meat prodn. - 85557C/48

RAAB/ 15.02.79 RAAB S A96 D22 M14 (A14 A17) = FR 2448-890
Bone prosthesis with covering of PMMA - 62733C/36
RAAB/ 15.02.79 RAAB S A96 D22 = FR 2448-891
Bone prosthesis with covering of polymer - 62734C/36
*RAIT/ 14.03.79 RAITA TA D15 *SF 7900-856
Sewage water treatment - C/48
*RAVE/ 16.02.79 RAVEGNINI P D22 F07 *FR 2448-869
Baby diaper comprises plastic bag of cellulose wadding - 84890C/48
READ- 03.08.73 READING & BATES PRO D15 = DS 2437-367
Dehydrating matls. contg. solids and water - 13102W/08
*REGC 21.11.77 UNIV OF CALIFORNIA D15 J01 *US 4233-153
Brine desalination - 86177C/48
REMI- 07.07.76 REMIA BV D14 J02 = GB 1580-071
Homogeniser for mixing a finely divided mass into another - 04087A/03
RESE 02.04.79 RESEARCH CORP B04 D16 S03 (S05) = DK 8001-380
Immuno:fluorescent test method for detecting antibodies - 77502C/44
RESE 02.04.79 RESEARCH CORP B04 D16 S03 (S05) = J5 5134-357
Immuno:fluorescent test method for detecting antibodies - 77502C/44
RETO 11.04.79 RJR ARCHER INC A97 D18 G03 (A81) = NO 8000-954
Tipping paper for air Ventilated cigarette - 79202C/45
RHON 30.05.73 RHONE-POULENC SA D13 E17 (D21) = DS 2424-712
Citric acid esters useful as tensiocides - 87187V/51
RHON 02.04.79 RHONE-POULENC INDUSTRIES D23 E16 = J5 5133-307
Perfumery use of N,N-di:ethyl 2-ethyl-hexane:amide - 77561C/44
RITP 12.02.79 SYBRON CORP A96 D21 E33 = FR 2448-345
Compsn. for filling teeth - 60771C/35
*ROBE/ 29.03.79 ROBERTSON A A J D12 *GB 2047-071
Animal pelting by using ring tool - 84954C/48
*ROED- 16.05.79 ROEDIGER W & C GMBH D15 *DT 2919-752
Pulp clarification system - 84649C/48
ROHG 28.04.79 ROHM GMBH D18 = BR 8001-516
Simultaneous swelling and unhairing of hides - 82713C/47
*ROHM 10.10.79 ROHM & HAAS CO B04 D16 *US 4233-405
Prepn. of spray dried enzyme compsns. - 86276C/48
ROQF 16.03.79 ROQUETTE FRERES SA B05 D13 E17 = J5 5132-628
Sorbitol compressed products e.g. tablets - 70061C/40
*ROSU= 02.11.76 ROST SUPPLY MACH D22 *SU -728-825
Preserved food sterilisation autoclave - 85975C/48
ROTK- 24.07.78 ROTKAPPCHEN-SEKTKEL D16 E31 J04 S03 (S05) = DT 2928-499
Appts. for determining potassium ferrocyanide needed to clarify wine - 87773B/49
ROUS 09.02.79 ROUSSEL UCLAF B02 D22 = FR 2448-543
Syn.-cephalosporin broad-spectrum antibiotics - 58760C/34
*RUBA/ 13.12.74 RUBAN L T D12 *SU -728-820
Fish-sorting equipment - 85970C/48
RUGG- 30.05.75 RUGGLI K AG D22 F04 = DS 2623-368
Tampon compressing system - 94630X/51

SACH- 05.09.74 SACHS SYSTEMTECH GM D22 J03 X25 = IT 1047-162
Multi-polarising-plate cell for anodic sterilisation - 22804X/13
SAKB 28.08.75 OTSUKA KAGAKU YAKUHIN D13 = DS 2638-761
Treating fermented soya beans to give food prods. - 41981Y/24
*SANK- 06.04.79 SANKO ENG KK D15 J01 *J5 5134-609
Removing oil from waste water - 85503C/48
*SANN 04.04.79 SANYO CHEM IND LTD A14 D15 F09 *J5 5133-404
Mfg. water-in-oil polymer emulsion used e.g. as flocculant - 85260C/48
SANO 04.11.75 SANDOZ AG B03 D16 = SF 8002-084
(Dihydro)cyclosporin C immunosuppressant and antiarhtritic prepn. - 32745Y/19
SANO 10.05.77 SANDOZ AG B04 D16 = SF 8001-681
Cyclosporin D and its derivs. - 82080A/46
SANO 10.05.77 SANDOZ AG B04 D16 = SF 8001-682
Cyclosporin D and its derivs. - 82080A/46
*SANT- 20.02.79 OY SANTASALO-SOHLBE D22 *SF 7900-577
Sterilising device for bottles, etc. in closed vessels - C/48
*SANY 29.05.73 SANKYO KK C03 D16 *J5 5131-398
Antibiotic B-41 prodn. for control of aphids - 85039C/48
SANY 20.02.79 SANKYO KK B03 D16 = SF 8000-506
Hypocholesterolaemic agent monacoline K - 62276C/36
SANY 11.05.79 SANKYO KK B03 D16 = NL 8001-697
Monacoline K prepd. by cultivation of Monascus strains - 69578C/40
*SASA/ 04.04.79 SASAKI Y D15 *J5 5132-610
Water filter appts. - 85129C/48
SATA- 26.01.76 SATAKE KAGAKU KIKAI D15 = J5 2090-864
Stirring and concentrating waste water - 85565C/48
*SATA- 26.01.76 SATAKE KAGAKU KIKAI D15 *J8 0042-842
Stirring and concentrating waste water - 85565C/48
*SCEN- 24.04.79 SCIENTIA ENGENHARIA D16 *BR 7902-520
Continuous process for alcoholic fermentation of sugar - C/48

SCHD 14.06.75 SCHERING AG A60 C01 D22 F06 = DS 2610-931
Biocidal compsns. contg. (new) diptycho tin cpds. - 96287X/52
SCHM- 07.04.79 SCHMIDDING W & CO G D23 E17 = SW 8002-213
Deodorising and/or deacidifying high-boiling organic liq. - 77177C/44
SCHO- 24.08.72 FA SCHODEL E D18 = DS 2241-602
Leather/hide dressing machine - 19642V/11
SCHO/ 21.10.76 SCHONE K D15 E16 G04 = DL -127-968
Removing boiler scale - 10457A/06
SCHU/ 06.12.76 SCHUSSLER K H D15 = DS 2655-153
Counterflow bar screen for sewage or desalination plants - 44177A/25
SCHU/ 07.04.79 SCHUERCH E D15 J02 = DK 8001-479
Radial injector for feeding gas, esp. air, into liquids - 56947C/33
SCHU/ 07.04.79 SCHURCH E D15 J02 = GB 2047-343
Radial injector for feeding gas, esp. air, into liquids - 56947C/33
SCHU/ 07.04.79 SCHURCH E D15 J02 = SW 8002-554
Radial injector for feeding gas, esp. air, into liquids - 56947C/33
SCIE 30.11.77 SCIENCE UNION & CIE B04 D16 = US 4233-291
Depsipeptide extract of Fusarium equiseti - 42405B/23
*SCMZ 05.06.79 SCM CORP D13 *BE -884-374
Imitation cocoa powder prepd. from fine flour mixt. - 84392C/48
SEAR 02.04.79 SEARLE G D & CO B04 D16 = DK 8001-425
Synthetic influenza gene prodn. - 73458C/42
SEIW 06.02.79 SEITZ WERKE GMBH D16 = FR 2448-569
Argol separation plant for wine treatment - 57101C/33
*SERE- 08.02.79 SERES SOC ETUD REAL D15 H03 J04 S03 (T06) *FR 2448-746
Flow ratio controller - 84882C/48
*SHAU= 22.05.78 SHAULYAISK ELNYAS LEATH A82 D18 G02 *SU -726-168
Compsn. for imparting pearlised finish to chrome leather - 85754C/48
SHEL 03.04.79 SHELL INT RES MIJ BV D15 H07 J01 = J5 5134-610
Breaking water-oil emulsions - 77438C/44
SHEL 03.05.79 SHELL OIL CO A25 D25 E17 (A97) = US 4233-460
Mild oxidation of alkoxy:alcohol(s) to alkoxy:acid(s) - 83013C/47
*SHIG/ 03.04.79 SHIGETOMI Y A88 D15 *J5 5132-689
Waste water treatment process - 85165C/48
SHIS 06.10.72 SHISEIDO KK D21 E17 = IT 1047-476
Squalane-type cosmetic compsn - 32924V/18
*SHIS 05.04.79 SHISEIDO KK D23 E14 (D21) *J5 5133-303
Stabiliser for perfume - 85216C/48
*SHIS 05.04.79 SHISEIDO KK D23 E14 (D21) *J5 5133-304
Stabiliser for perfume - 85217C/48
*SHIS 05.04.79 SHISEIDO KK D23 E14 (D21) *J5 5133-305
Perfume compsn. with high stability to light, etc. - 85218C/48
*SHIS 05.04.79 SHISEIDO KK D23 E17 (D21) *J5 5133-306
Perfume stabiliser - 85219C/48
SMIK 18.08.76 SMITH KLINE-RIT A88 B04 C03 D16 = FR 2448-902
Neurotoxin prepd. from pathogenic Escherichia coli - 13983A/08
*SOCH 15.05.79 SOC CHIM ORG BIOL AEC B05 D16 E19 *BE -883-322
D-alpha-aminoacid prepn. by enzymatic hydrolysis of hydantoin - 84365C/48
*SOLO/ 20.05.77 SOLOWAY N P D13 *US 4233-334
Fruit flavoured dry powdered mixes - 86248C/48
SQUI 20.04.79 SQUIBB E R & SONS INC B02 D16 #GB 2047-231
Prepn. of penicillin(s) by side chain precursor fermentation - 64601B/35
STAM 10.04.73 STAMICARBON BV B04 D16 = IT 1047-134
Water-insoluble enzyme complexes - 74363V/43
*STAM 09.05.79 STAMICARBON BV A41 C04 D15 E16 *NL 7903-623
Purification of urea-contg. effluent water - 85611C/48
*STAU 15.07.77 STAUFFER CHEMICAL CO C03 D22 E19 *US 4233-318
1-Alkyl-S-aminoalkyl-isothiouronium di:halide(s) - 86239C/48
*STAV= 18.04.78 STAVROPOL POLY D14 J04 S03 *SU -728-082
Foodstuff lipid sepn. by thin-layer chromatography - 85949C/48
*STEM 18.05.79 STEINMULLER L & C GMBH D15 J01 *DT 2920-054
Pretreatment of water for reverse osmosis - 84671C/48
STEP- 20.11.75 STEPHAN A & SOHNE D13 = DS 2552-045
Almond pastes e.g. marzipan for confectionery prods. - 07603Y/05
*STRK 11.05.79 STORK PMT BV D12 *NL 7903-737
Plucking element for stripping feathers from fowl carcasses - 85623C/48
*STUR/ 08.02.79 STURM J P D15 *FR 2448-511
Baked clay brick with holes for making bacterial bed - 84856C/48
SUMI- 28.11.77 SUMIKIN KAKO KK D15 = J8 0042-878
Treating organic waste water with activated sludge - 55375B/30
*SWAY/ 24.01.77 SWAY B A92 D12 X25 *US 4233-323
Tenderisation of fresh meat - 86242C/48
SYMA- 20.01.78 SOC SYMAC A31 D14 J02 = US 4232-973
Continuous mixer for particulate solids and liquids - 54500B/30
SYNT 14.07.77 SYVA CO B04 D16 J04 S03 (S05) = US 4233-401
Competitive protein binding assay - 06499B/04
SYNT 05.04.78 SYVA CO B04 D16 J04 S03 (S05) = US 4233-402
Immunoassay method for component of ligand anti:ligand pair - 77640B/43

*TAIC 30.03.79 TAIYO CHEMICAL IND KK D13 *J5 5131-375
Prevention of food oxidation - 85032C/48
*TAKA/ 06.04.79 TAKADA K D25 *J5 5133-498
Water-soluble deodorising detergent - 85326C/48
*TAKC 18.03.76 TAK CHEMICALS LTD A84 D22 E14 F06 *GB 1580-026
Tacky mat contg. bactericide also acting as sec. tackifier - 84934C/48
TAKE 11.09.70 TAKEDA CHEMICAL IND KK D16 E17 = DS 2145-084
Citric acid sepn - 19648T/12
TAKE 17.10.74 TAKEDA CHEM IND LTD D18 = IT 1047-178
Tobacco products and tobacco substitutes - 32268X/18
TAKE 03.10.78 TAKEDA CHEMICAL IND KK B04 D16 = FR 2449-099
Antibiotic SB-72310 produced by culturing Pseudomonas strain - 30504C/17
TAKE 02.02.79 TAKEDA CHEMICAL IND KK B04 D16 (B02) = DT 3003-624
Antibiotic c-19393 S2 or H2 - 59851C/34
TAMM/ 24.07.79 TAMMINEN T D11 = SF 7902-305
Plaited pastry prodn. machine - 68453B/38
*TANA 30.03.79 TANABE PHARMACEUTICAL KK D11 E19 *J5 5131-340
Quality improving agent for use with flour - 85026C/48
*TANE/ 31.03.79 TANEMURA F D15 H05 J01 *J5 5132-608
Oil-water separator - 85127C/48
TATL 28.05.76 TATE & LYLE LTD A11 D16 = J8 0042-839
Alginate-type polysaccharides by culture of Azotobacter vinelandii - 68908Y/39
*TBIL= 30.03.78 TBILISI BRANDY COMB D16 *SU -727-684
Stabilisation of alcoholic drinks - 85856C/48
*TEAI= 27.06.77 TEA IND RES INST D13 *SU -728-822
Tea-rolling and milling equipment - 85972C/48
*TEAI= 12.05.78 TEA IND RES-PRODN COMPLE D14 *SU -728-821
Heat treatment equipment for thermally sensitive materials - 85971C/48
TECD 31.01.79 TECHNICON INSTRUM B04 D16 S03 (S05) = J5 5132-946
Disc electrophoretic method for immunochemical reactions - 57193C/33
*TECN 07.05.79 TECH INVENTION APPLIQUES D13 *BR 7902-750
Expansion apparatus for soya masses - C/48
*TECN- 07.05.79 TECNAL PROJ ASSESS D23 *BR 7902-751
Oil-extraction by expansion of flocculated matter - C/48
*TEEP 02.04.73 TEE PAK INC A11 D12 (A97) *US 4233-329
Prepn. of edible tubular sausage casings - 86246C/48
*TEKH= 06.07.76 TEKHRYBPROM EXP PRD D12 *SU -669-507
Removing inner organs from small fish - 85676C/48
TEMC- 28.04.76 TEMCA CHEM UNION GM A96 D22 (A14) = GB 1579-860
Open cell acetalised polyvinyl alcohol foam bandage - 81356Y/46
TETR 23.01.78 TETRA PAK DEV SA D12 = US 4233-320
Working up fish raw material for human nutrition - 56545B/31
TETR 05.04.78 TETRA PAK INT AB D22 = US 4233-271
Packaging strip sterilising device - 75582B/42
*THIR/ 15.02.79 THIRODE R D11 *FR 2449-250
Hot air oven for cooking food prods., e.g. cakes - 84922C/48
THOM 15.03.79 THOMAE K GMBH B02 C02 D13 = SF 8000-786
Pyrimidyl-ureido-acetamido penicillin derivs. - 71934C/41
TILL/ 17.10.78 TILLIE E D15 H03 = DL -144-274
Pollution control using binders - 03913C/03
*TKYT 06.04.79 TOTOKU ELECTRIC KK D15 J01 *J5 5134-623
Filter element for liq. or gas - 85512C/48
*TOBA= 22.09.77 TOBACCO RES INST D18 S03 *SU -728-831
Tobacco nicotine content determination - 85980C/48
*TODD/ 00.00.75 TODD J J D15 J02 *GB 1580-177
Liq. gasification device - 84945C/48
TOKK- 11.03.77 TOKYO KAJINO KK D13 = J5 3113-054
Tangle prepn. method - 85564C/48
*TOKK- 11.03.77 TOKYO KAJINO KK D13 *J8 0042-830
Tangle prepn. method - 85564C/48
TOMK/ 06.04.79 TOMKO B C03 D13 = SW 8002-474
Prodn. of phosphorus- and nitrogen-contg. animal feed additives - 76328C/43
TOMM/ 04.04.79 TOMMASI G D18 = DK 8001-394
Appts. for turning hides inside out - 77400C/44
*TOPC 09.04.79 TOPPS CHEWING GUM INC D13 *US 4233-319
Prepn. of low density chewing gum - 86240C/48
TORA 28.11.77 TORAY IND INC D15 J01 = US 4233-159
Device for separating solids from liquids - 44345B/24
*TORA 02.04.79 TORAY IND INC A97 D16 (A14) *J5 5131-386
Bacteria cultivation using water contg. PMMA membrane - 85034C/48
*TOWA- 16.05.79 TOWA KAKO CO LTD A97 D12 *DT 3018-861
Fibrous skin for processed meat - 84831C/48
TOWN 27.02.79 TOWNSEND ENG CO D12 #SF 7900-646
Machine to inject brine, etc. into meat - 20059B/11
*TOXN 04.04.79 TOYO JOZO KK B03 D16 *DT 3013-210
Amino-glycoside antibiotics from dactylosporangium strain - 84718C/48
TOXN 04.04.79 TOYO JOZO KK B03 D16 = J5 5133-394
Amino-glycoside antibiotics from dactylosporangium strain - 84718C/48
TOXN 05.04.79 TOYO JOZO KK A60 B04 D16 E13 = J5 5133-382
Polyfunctional di:sulphide contg. 2 benzothiazolyl and 2-pyridyl 53690C/31
TOYJ 02.07.76 TOYO SODA MFG KK A91 D15 E36 J01 (X25) = CA 1088-707
Cation exchange resin with improved durability - 16541A/09
*TOYJ 03.04.79 TOYO SODA MFG KK D15 *J5 5132-606
Treating waste water contg. dye or surfactant - 85125C/48
*TROI/ 06.05.77 TROITSKII I I D15 J01 X25 *SU -728-888
Alluvial filter for clarifying low concentration suspension - 86001C/48

TSZE 07.02.79 TATABANYAI SZENBANYAK D15 =FR 2448-510
Purifying waste water contg. dissolved organic impurities - 62714C/36
*TUMC/ 01.02.78 TUMCHENOK V I C03 D13 F09 J01 *SU -728-931
Centrifugal atomiser for concentrated suspensions of fodder yeast - 86036C/48

UBEI 07.02.79 UBE INDUSTRIES KK D15 =FR 2448-383
Injecting one liq. into another liq. - 59029C/34
UEDA- 01.10.74 UEDA KAGAKU KOG KK D13 (D16) =J8 0042-620
Enzyme prodn. for use in soy mfr. - 38949X/21
UENO 27.11.74 UENO PHARMACEUTICAL KK A97 D12 (A26) =J8 0042-611
Antibacterial polybiguanide salts - 55096X/29
UGIN 01.09.76 PROD CHIM UGINE KUHLMANN D25 E19 F06 =CA 1088-954
Alpha:acyloxy-(N,N')-poly:acyl-malonamide cpds. - 15881A/09
UGIN 20.04.79 PROD CHIM UGINE KUH C03 D13 =GB 2047-066
Animal feedstuffs in block or agglomerate form e.g. salt licks - 77338C/44
*UGLI= 18.09.78 UGLICH CHEESE BUTTE D16 *SU -727-686
Streptococcus lactis bacterial strain - 85858C/48
*UKSO- 04.03.77 UK SEC SOCIAL SERV B04 D16 *GB 1580-255
Human platelet counting standard - 84950C/48
*UMEY- 05.03.79 UMEYA TRADING CO D12 (D13) *GB 2047-067
Flavouring and preservative agent for foods - 84952C/48
UNIC 03.03.71 UNION CARBIDE CORP D15 J01 =DS 2207-202
Reverse osmosis module - 61607T/39
UNIC 11.04.79 UNION CARBIDE CORP D12 #SW 7903-239
Shirred sausage casing - 61398B/33
UNIC 19.04.79 UNION CARBIDE CORP A88 D15 J01 (A25) #GB 2047-105
Filtration removal of suspended solids from liquid - 59716B/32
UNIL 08.04.71 UNILEVER NV D13 E16 =J5 5131-362
Cheese products - 70323T/44
UNIL 06.09.74 UNILEVER NV D25 E33 (E34) =IT 1047-163
Detergent compsns. esp. for clothes - 20734X/12
UNIL 31.10.74 UNILEVER NV D25 =IT 1047-240
Increasing bulk wt of granulated detergent compsns - 36393X/20
UNIL 22.08.75 LEVER BROTHERS CO A96 D22 F07 =US 4232-674
Fluid absorbing article with absorbent gel stripes - 18449Y/11
UNIL 08.01.76 UNILEVER LTD D23 =GB 1580-181
Sepg. solid particles from fats, esp. in fractional crystallisation - 46994Y/27
UNIL 26.03.76 UNILEVER NV D21 =GB 1580-028
Injecting liq. into extruded detergent - 68807Y/39
UNIL 23.04.76 UNILEVER NV A97 D25 (A25) =GB 1580-047
Powder detergent contg. ethoxylated alcohols - 80709Y/45
UNIL 29.04.76 UNILEVER NV A97 D13 =J8 0042-817
Oil-in-water emulsions for sauces and mayonnaises - 75916Y/43
UNIL 11.06.76 UNILEVER LTD D13 =GB 1580-051
Protein, esp. soya prepn. from defatted soya flour - 88262Y/50
UNIL 21.06.76 UNILEVER LTD A96 D21 E17 =CA 1088-867
Hair conditioning shampoo contg. cationic cellulosic resin - 90077Y/51
UNIL 25.08.78 UNILEVER NV C03 D13 =DK 8001-741
Stabilised milk substitutes for young animals - 20667C/12
UNIL 07.02.79 UNILEVER NV A97 D25 E16 =FR 2448-568
Pretreatment compsn. for heavily soiled laundry - 60727C/35
UNIL 09.02.79 UNILEVER NV D13 =FR 2448-300
Converting dried leaf tea into pellets for storage and transporting - 60499C/35
UNIL 06.03.79 UNILEVER NV D25 =BR 8001-280
Inexpensive cool water detergent compsns. - 72005C/41
UNIL 06.03.79 UNILEVER NV D25 =BR 8001-281
Inexpensive cool water detergent compsns. - 72004C/41
UNIL 06.04.79 UNILEVER NV D23 E11 =DK 8001-443
Bleaching compsns. contg. peroxy cpd. and activator - 75321C/43
UNIL 06.04.79 UNILEVER NV D23 E11 =NO 8000-930
Bleaching compsns. contg. peroxy cpd. and activator - 75321C/43
UNIL 06.04.79 UNILEVER NV D23 E11 =SW 8002-599
Bleaching compsns. contg. peroxy cpd. and activator - 75321C/43
*UNIL 11.05.79 UNILEVER NV D13 *DT 3018-089
Ice confectionery mouldings extraction - 84812C/48
UNVO 26.09.74 UOP INC A97 D15 E19 =IT 1047-069
Inhibiting deposition of boiler scale - 28598X/16
UNVO 19.09.75 UOP INC D15 J01 #IT 1047-077
Laminated semi-permeable membrane stack - 68885W/41
UPJO 17.11.75 UPJOHN CO B05 D16 (B02) =J5 5131-395
Steroid intermediate hexahydro-indanone and indanedione derivs. prepn. - 38461Y/22
UPJO 19.03.79 UPJOHN CO B04 D16 =DT 3005-225
Pure plasmid DNA pUC3 - 72782C/41
UPJO 29.03.79 UPJOHN CO B04 D16 =DT 3008-648
Plasmid pUC9 isolated from Streptomyces fradiae - 74576C/42
UPJO 29.03.79 UPJOHN CO B04 D16 =J5 5133-396
Plasmid pUC1 isolated from Streptomyces fradiae - 73817C/42
UPJO 29.03.79 UPJOHN CO B04 D16 =J5 5133-397
Plasmid pUC2 isolated from Streptomyces fradiae - 73815C/42
UPJO 29.03.79 UPJOHN CO B04 D16 =J5 5133-398
Plasmid pUC8 isolated from Streptomyces fradiae - 73816C/42
UPJO 29.03.79 UPJOHN CO B04 D16 =J5 5133-399
Plasmid pUC9 isolated from Streptomyces fradiae - 74576C/42
*URBA= 12.02.79 URBAN ECONOMY RES D15 *FR 2448-512
Activated sludge process and plant to purify waste water - 84857C/48
*USUP= 05.04.76 UKR SUPPLY MACH CON D11 *SU -728-817
Forming patterned biscuits from dough blanks - 85967C/48
*UTIK/ 15.05.79 UTIKAL H D16 E17 *DT 2919-518
Ethanol prodn from sugar cane - 84636C/48

*VAIS/ 06.03.79 VAISSI J D14 *SF 7900-764
Cabbage unloading plant - C/48
VALP- 16.02.79 VALPRON GRP INTERET ECON C03 D13 (D16) =FR 2448-865
Fermentation of juice pressed from animal fodder - 60500C/35
*VEGE= 06.09.77 VEGETABLES RES INST D14 T05 X25 *SU -728-827
Agricultural prod., e.g. fruit, sorter - 85977C/48
VEHN- 08.09.72 OY VEHNA AB D13 =SU -728-730
Gluten from flour - 07299V/05
*VELW 21.06.79 VEB LEUNA-WERK W ULBRICH C03 D25 E16 F06 *DL - 144-406
Acyl tauride paste concn. and purification - 84482C/48
VEPE- 30.06.76 VEPEX FOVALLALK C03 D13 =US 4233-210
Protein recovery from green plants - 07743A/04
*VOLC- 04.04.79 VOLCANO KK D15 J09 *J5 5132-655
Nozzle for spraying dirty water etc. into incinerator - 85157C/48

*WACH/ 01.11.78 WACHSMUTH W A D15 J01 *US 4233-158
Liq. treatment tank for demineralising water - 86181C/48
*WAHL 03.05.79 WAHLSTAM H D21 *WP 8002-371
Plaque-dissolving tooth-paste - 86329C/48
WATE- 18.03.77 WATER REFINING CO D15 T06 =CA 1089-127
Control circuit for starting regeneration cycle in water softener - 53514A/30
WYSS 25.05.77 ESCHER WYSS LTD D13 =US 4233-322
Prepn. of rapidly dissolving vegetable prods. e.g. peas - 16295B/09

*YALO= 15.03.78 YALOVENY PROD AGR D16 *SU -726-162
Processing alcoholic fermentation residue from wine mfr. - 85750C/48
*YUKI- 31.03.79 YUKIJIRUSHI SHOKUHI D13 *J5 5131-346
Powdery or granular lactic acid drink prepn. - 85027C/48
*YUKI- 03.04.79 YUKIJIRUSHI SHOKUHI D13 *J5 5131-365
Corned-beef-like food having low oil and fat content - 85031C/48

R

59372-R D
BE -746-102 R33
NL 7001-257 R34
ZA 7000-495 R39
DT 2004-716 R46
FR 2035-493 S08
CA -894-784 T15
GB 1302-611 U02
J7 4016-880 V21
CH -552-346 V39
NL -147-022 W44
DS 2004-716 C48

S

10120-S AD
BE -754-243 S05
NL 7011-380 S06
DT 2037-944 S08
ZA 7005-020 S19
FR 2055-703 S32
CH -515-189 T03
US 3716-483 U09
GB 1323-890 U29
CA -931-880 U35
J8 0026-884 C32
DS 2037-944 C48

18899-S DE
BE -755-504 S10
DT 2043-341 S11
DT 2043-366 S11
NL 7012-644 S12
NL 7012-643 S12
ZA 7005-808 S19
ZA 7005-807 S19
FR 2061-158 S38
FR 2061-637 S39
CH -524-581 T37
CH -525-198 T37
CH -529-829 U04
CH -529-517 U04
CH -530-459 U04
SU -345-677 U21
GB 1323-167 U28
GB 1323-467 U29
SU -379-087 U52
US 3819-712 V27
US 3895-073 W30
J7 5031-144 W44
NL -148-596 X11
J7 6009-015 X16
US 3950-429 X17
US 3952-062 X18
CA -991-084 X27
US 3974-222 X34
US 4032-478 Y27
J7 7031-862 Y36
CA 1040-654 A44
IT 1034-017 B51
DS 2043-341 C48

32330-S DJ
DT 2053-544 S25
BE -760-325 S25
FR 2073-720 T02
US 3664-928 T23
GB 1290-050 T38
DS 2053-544 C48

49571-S D
NL 7102-711 S37+
BE -763-480 S38
DT 2109-345 S40
FR 2077-976 T05
FR 2080-271 T06
GB 1343-640 V03+
IT 1027-005 B06+
DS 2109-345 C48+

T

29648-T DE
BE -772-474 T12
DT 2145-084 T13
NL 7112-484 T13
ZA 7106-088 T24
FR 2107-571 T32
J7 3006-446 U09
US 3799-980 V14
GB 1365-362 V36
CA -960-691 W04
DS 2145-084 C48

49287-T DE
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NL 7100-235 T31
J4 7014-340 T34
US 3803-172 V16
GB 1354-431 V22
CH -572-319 X15
J5 5131-363 C48

61607-T DJ
NL 7201-384 T39
DT 2207-202 T40
ZA 7200-470 T45
US 3712-473 U05
FR 2128-535 U05
GB 1327-550 U34
CA -951-250 V31
IL --38-647 W15
J4 7030-578 A49
J7 8042-754 A49
DS 2207-202 C48

70323-T DE
NL 7204-792 T44+
DT 2216-389 T45
BE -781-848 T47
FR 2132-784 U08
ZA 7202-222 U52
GB 1381-738 W05+
CH -562-569 W30+
OE 7203-102 W44+
CA -998-561 X45+
US 4020-190 Y18+
DT 2265-549 B49+
J4 8048-670 C30+
J8 0024-873 C30+
J5 5131-362 C48+

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27546-U CD
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GB 1411-738 W44
GB 1411-736 W44
GB 1411-737 W44
IT 1047-126 C48

44513-U DE
DT 2300-814 U32
NL 7300-664 U32
BE -794-263 U32
FR 2168-391 U46
J4 8080-745 V02
ZA 7208-743 V35
GB 1419-441 X01
CH -578-868 X39
CA 1003-753 Y05
IT 1047-130 C48

V

07299-V D
BE -804-595 V05
NL 7312-394 V13
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FR 2198-703 V23
J4 9062-657 V34
DL -107-485 V42
GB 1397-370 W24
CS 7306-205 X14
CH -580-921 X47
CA 1018-392 Y42
DS 2345-129 A25
SU -728-730 C48

18115-V D
J4 8022-642 V10
J8 0042-965 C48

19642-V D
DT 2241-602 V11
FR 2197-068 V21
DL -105-828 V32
SU -511-870 Y17
DS 2241-602 C48

23349-V ADE
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NL 7312-434 V13
FR 2198-997 V23
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US 3899-602 W34
GB 1412-719 W45
CA 1001-618 Y01
NL -153-210 Y24
DS 2345-341 C06
IT 1047-129 C48

32924-V DE
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FR 2201-863 V28
J4 9055-853 V45
GB 1379-013 W01
DS 2327-087 W04
US 3886-287 W23
J7 7031-022 Y36
IT 1047-476 C48

36485-V D
BE -806-699 V20
NL 7315-592 V23
DT 2353-126 V23
FR 2206-912 V38
J4 9081-564 V41
ZA 7308-353 V47
PT --60-888 V52
DL -109-311 W07
CH -558-148 W09
US 3930-044 X02
GB 1421-397 X03
HU T011-383 X24
OE 7309-720 X28
IL --43-588 X42
CS 7307-874 X47
CA 1000-997 X52
SU -562-172 A19
J8 0042-810 C48

41958-V D
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NL 7313-577 V24+
FR 2207-656 V39
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GB 1448-875 X37+
CH -584-011 Y09+
CA 1014-788 Y33
CA 1016-390 Y37
IT 1047-006 C48+

43987-V ADG
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FR 2208-962 V40
J4 9098-878 V47
US 3872-047 W13
GB 1458-019 X50
CA 1039-431 A41
IT 1047-127 C48

45545-V AD
DT 2259-671 V25
BE -808-146 V25
NL 7316-065 V25
FR 2209-513 V40
US 3867-182 W09
GB 1440-486 X26
CA 1020-722 Y48
IT 1047-128 C48

64952-V D
DT 2408-067 V37
BE -811-452 V37
NL 7402-426 V37
FR 2218-838 V51
US 3865-939 W08
J5 0040-605 W24
GB 1413-102 W45
CA 1024-814 A07
IT 1047-132 C48

74363-V BD
BE -813-555 V43
NL 7304-956 V43
DT 2417-265 V45
DK 7402-017 V50
FR 2225-442 W06
J4 9134-889 W09
J4 9134-889 W15
US 3919-048 W48
GB 1456-738 X48
IT 1047-134 C48

74670-V D
DT 2416-742 V43
BE -813-466 V43
NL 7404-743 V43
SW 7404-699 V49
DK 7401-941 V50
FR 2224-163 W05
US 3862-307 W05
J5 0046-847 W25
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OE 7402-952 X40
CA 1027-051 A11
CH -598-820 A24
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76231-V DE
FR 2213-068 V44
IT 1047-472 C48

79238-V BCD
BE -814-267 V46
NL 7405-514 V46
DT 2419-801 V47
SW 7405-675 V51
DK 7402-307 W01
US 3856-937 W01
FR 2227-277 W08
J5 0013-594 W15
ZA 7401-801 W18
DL -112-898 W28
AR -201-139 W40
PT --60-888 V52
DL -114-342 W40
HU T010-824 X04
US 3950-515 X17
OE 7403-475 X24
GB 1441-703 X28
HU T012-329 X47
IL --44-445 Y07
CA 1017-274 Y39
CH -594-735 A09
OE 7601-328 A40
CS 7402-854 B15
J7 9021-438 B34
SU -674-653 C12
IT 1047-135 C48

87187-V DE
BE -815-698 V51
NL 7406-930 V51
DT 2424-712 W03
DK 7402-905 W06
FR 2231-659 W12
J5 0019-718 W17
US 3929-870 X02
GB 1448-792 X37
CH -595-316 A12
IT 1021-027 A19
J7 8035-054 A42
DS 2424-712 C48
J4 9098-878 V47
US 3872-047 W13
GB 1458-019 X50
CA 1039-431 A41
IT 1047-127 C48

89781-V D
US 3852-882 V52
BE -822-108 W22
DT 2454-042 W32
NL 7414-686 W33
SW 7414-163 W38
AR -201-461 W42
DK 7405-920 W43
FR 2258-938 W46
BR 7409-575 X24
GB 1468-383 Y12
CA 1010-643 Y22
CH -588-336 Y27
IT 1023-104 A31
OE 7409-094 B13
DS 2454-042 C48

W

13102-W D
DT 2437-367 W08
BE -818-359 W08
NL 7410-355 W08
SW 7409-750 W13
FR 2239-272 W20
US 3925-201 W52
J5 1091-872 X39
GB 1460-319 Y01
IT 1018-811 A02
CA 1024-035 A05
J7 8015-833 A25
DS 2437-367 C48

24509-W D
DT 2348-807 W15
ZA 7405-931 X03
DS 2348-807 C48

29076-W BCDE
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NO 7403-738 W24+
NL 7413-589 W18
DT 2449-863 W19
SW 7412-234 W23
DK 7405-419 W29+
J5 0064-295 W30+
SF 7403-025 W32+
SF 7403-024 W32+
DL -114-082 W36+
PT --62-797 W37+
ZA 7406-519 X03
NL 7314-589 X51
OE 7408-363 Y01
GB 1481-600 Y31+
OE 7508-843 Y44
DK 7702-690 Y46+
SW 7708-594 A05+
DT 2462-675 A09+
IL --45-833 A33+
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CS 7407-099 B14+
DS 2462-675 B21+
DS 2449-863 B28+
CA 1059-992 B34+
HU T017-188 B45+
SF 8002-003 C48+

42798-W BDJ
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BE -826-324 W39
NL 7502-922 W40
J5 0128-594 W49
SF 7500-674 W51
FR 2264-283 X01
DK 7500-999 X01
ZA 7501-556 X21
GB 1446-298 X34
OE 7500-036 Y09
US 4019-961 Y18
IL --46-545 Y30
CA 1031-678 A23
IT 1041-738 C17
J8 0042-636 C48

46104-W BD
BE -825-680 W28
DT 2507-117 W35
NL 7501-460 W36
SW 7501-838 W41
NO 7500-560 W42
DK 7500-612 W47
J5 0123-887 W48
SF 7500-463 W51
PT --63-266 X19
OE 7501-271 X24
GB 1489-231 Y42
US 4168-375 B39
IT 1047-483 C48

46805-W BDE
J5 0025-790 W28
J8 0042-630 C48

46807-W BDE
J5 0025-792 W28
J8 0042-631 C48

58976-W ADJ
DT 2407-309 W36
NL 7501-782 W36
J5 0117-892 W46
FR 2261-301 W49
GB 1463-941 Y06
US 4137-219 B06
US 4142-035 B10
DS 2407-309 C08
US 4233-431 C48+

59142-W ADE
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BE -825-823 W36
NL 7502-083 W37
FR 2262-024 W50
US 4008-043 Y08
GB 1483-863 Y34
CH -611-516 B29
CA 1077-055 C21
US 4233-241 C48

68885-W DJ
US 3909-418 W41
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DK 7504-135 Y23+
FR 2325-405 Y26+
J5 2040-482 Y30+
IL --48-121 A28+
GB 1517-220 A28+
J7 9035-995 B48+
IT 1047-077 C48+

70456-W DJ
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DT 2544-488 X29
CA 1059-660 B33
CA 1065-509 B46
IT 1047-278 C48

77448-W D
FR 2259-905 W47
DT 2504-108 X01
J5 0105-887 X03
GB 1443-918 X31
US 4004-977 Y06
CA 1037-887 A38
J8 0042-635 C48

81150-W D
US 3920-017 W49
BE -833-461 X09
NL 7511-407 X16
DT 2541-735 X16
SW 7509-243 X20
DK 7503-888 X26
FR 2285-820 X28
BR 7505-848 X34
PT --64-265 X38
ZA 7505-287 Y17
CH -592-422 Y48
GB 1524-384 A37
IT 1047-060 C48

81496-W D
BE -831-281 W50
FR 2285-347 X27
CH -614-681 C02
IT 1047-407 C48

X

15025-X DF
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FR 2286-214 X28
J5 1064-025 X29
ZA 7505-280 X35
GB 1477-983 Y26
DS 2542-637 Y42
IL --47-940 A09
CA 1048-726 B10
J7 9019-453 B32
NL -161-514 B41
IT 1047-098 C48

20734-X DE
BE -832-964 X12
NL 7510-271 X13
DT 2539-429 X13
SW 7509-918 X18
J5 1052-404 X26
FR 2288-144 X33
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GB 1515-273 A25
CA 1069-013 C04
CH -619-488 C43
IT 1047-163 C48

20797-X D
BE -833-883 X12
NL 7511-409 X16
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J5 1044-651 X22
FR 2286-193 X28
DL -120-467 X32
US 4036-694 Y30
GB 1515-919 A26
IT 1047-199 C48

22804-X DJ
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FR 2283-699 X25
BR 7505-644 X34
US 4062-754 Y51
GB 1497-134 A01
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23808-X D
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DT 2538-076 X14+
SW 7509-376 X18+
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FR 2283-635 X25+
PT --64-246 X38+
GB 1453-759 X44
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J5 1032-751 Y51
J7 7046-298 Y51
CH -600-795 A28+
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IT 1039-003 C12
CA 1087-449 C45+
US 4233-327 C48+

24120-X ADFK
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DT 2542-381 X17
GB 1509-318 A18
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IT 1047-091 C48

24866-X AD
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BE -833-505 X14
NL 7510-861 X14
SW 7510-331 X19
DK 7504-179 X25
FR 2285-422 X27
J5 1076-892 X33
BR 7505-965 X34
US 4026-292 Y23
GB 1514-561 A24
CA 1057-593 B29
IT 1047-109 C48

28294-X ADE
BE -833-864 X16
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FR 2285-851 X28
US 4025-301 Y22
GB 1497-095 A01
CA 1051-876 B17
CH -614-120 B50
IT 1047-201 C48

28598-X ADE
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FR 2286-110 X28
US 3985-671 X43
J7 8018-469 A28
GB 1520-915 A32
CA 1058-047 B32
IT 1047-069 C48

28682-X DE
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NL 7511-463 X17
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FR 2286-911 X29
BR 7506-415 X41
ZA 7506-264 X44
OE 7407-969 Y48
GB 1521-910 A33
CH -603-877 A37
IT 1047-272 C48

28683-X DE
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BE -833-997 X16
NL 7510-506 X17
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DK 7405-336 X27
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FR 2286-878 X29
BR 7506-362 X42
ZA 7506-265 X44
GB 1503-356 A10
J7 9019-006 B32
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US 4184-975 C05
CH -617-457 C24
IT 1047-271 C48

30126-X DJ
BE -834-110 X17
NL 7511-360 X17
SW 7511-094 X21
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IT 1047-260 C48

30461-X DHJM
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CA 1075-442 C18
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32268-X D
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OE 7505-651 A06+
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CA 1061-530 B38+
IT 1047-178 C48+

32424-X BCD
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BE -834-679 X19
NL 7512-264 X19
SW 7511-732 X23
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J5 1065-793 X30
DK 7504-713 X30
SF 7502-924 X31
FR 2288-526 X34
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PT --64-384 X41
HU T013-021 Y14
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49100-X ABCD
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J8 0042-632 C48

55096-X AD
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J8 0042-611 C48

57893-X BD
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NL 7602-621 X40+
SW 7602-871 X44+
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FR 2303-562 Y03
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US 4164-565 B35

57893-X

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SU -728-720 C48

64980-X D
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US 4099-610 A37
IT 1047-302 C48+

66102-X DJ
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HU T014-192 Y50
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77250-X CD
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CA 1088-876 C48+

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FR 2312-364 Y11
CH -586-038 Y18
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J8 0042-634 C48

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J8 0042-617 C48

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DT 2660-600 C48+

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SW 7700-134 Y33
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DK 7700-056 Y39
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ZA 7700-062 A38
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52544-Y D
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GB 1541-511 B10+
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FR 2346-365 A04+
GB 1551-518 B50+
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82954-Y AD
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R 2443-210 C39+
W 8005-537 C42+
F 7900-646 C48+

0291-B DJ
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0322-B D
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ZA 7901-719 C21+
DT 2915-097 C43+
NL 7902-817 C44+
BR 7902-248 C46+
GB 2046-069 C46+
SW 7903-239 C48+

64601-B BD
US 4164-445 B35
GB 2047-231 C48+

66980-B D
J5 4098-361 B37
J8 0042-819 C48

68166-B D
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EP --18-701 C47+
NL 7905-691 C48+

68453-B D
EP ---4-093 B38
SF 7800-769 B47
SF 7902-305 C48+

72125-B BDE
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J5 4126-777 B45
US 4233-332 C48

73782-B D
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EP ---4-627 B42
J5 4163-855 C06
BE T000-046 C15
SW 8001-621 C20
NL 7915-019 C24
DS 2814-295 C29
GB 2047-069 C48

75582-B D
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GB 2018-137 B42
NL 7902-388 B43
SW 7803-828 B47
FR 2421-803 C04
US 4233-271 C48

77212-B BDJ
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GB 2023-607 C01
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NL 7904-879 C03
J5 5002-997 C07
NO 7902-084 C07
SW 7905-514 C07
DK 7902-580 C08
BR 7903-958 C09
SF 7901-937 C12
FR 2429-258 C14
ZA 7903-068 C39
DL -144-461 C48

77640-B BDJ
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GB 2018-986 B43
J5 4136-896 B48
J5 4139-794 B49+
FR 2434-201 C23
US 4233-402 C48

80844-B ADE
BE -876-057 B45
PT --69-575 C24
NL 7903-527 C25
GB 2035-362 C25
J5 5075-497 C30
FR 2442-884 C38
BR 7902-727 C47
US 4233-192 C48

84708-B BD
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BE -876-910 C03+
DT 2919-334 C48+

87773-B DEJ
DL -137-860 B49
DT 2928-499 C48

C

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EP ---6-192 C02
J5 4163-882 C06
PT --69-753 C08
SF 7901-846 C09
BR 7903-692 C11
DK 7902-425 C11
ZA 7902-823 C35
DL -144-277 C48

01949-C AD
DT 2925-358 C02+
NL 7904-864 C03+
BE -877-151 C04+
GB 2026-004 C05+
J5 5002-691 C07+
FR 2429-013 C14
FR 2448-346 C48+

02270-C DE
GB 2024-208 C02
NL 7904-830 C03
DT 2827-957 C03
J5 5004-374 C08
FR 2438-028 C29
DL -144-358 C48

03913-C DH
EP ---6-776 C03+
BR 7903-365 C01+
NO 7901-760 C04+
J5 5013-193 C10+
DL -144-274 C48+

05441-C DEK
WP 8000-009 C03
SF 7901-831 C09
US 4233-126 C48

07172-C DJ
US 4183-384 C04
BR 7900-337 B35
ZA 7900-207 C09
CA 1088-751 C48

07364-C BCD
BE -878-430 C05
GB 2029-219 C12+
WP 8000-412 C13
NO 7902-748 C16
DK 8001-764 C48

11392-C ADJ
DT 2930-442 C07+
GB 2027-004 C07+
J5 5020-606 C13
FR 2433-484 C22+
J5 5134-694 C48

13034-C D
DL -138-596 C08
DT 2927-657 C16
DL -138-596 C48

16474-C BD
US 4189-569 C09+
CA 1088-928 C48

18701-C D
DT 2838-147 C11
EP ---8-781 C12
WP 8000-525 C15
NO 7802-807 C17
SF 7902-702 C21
HU H002-557 C37+
DK 8001-894 C48

20667-C CD
EP ---8-908 C12
WP 8000-399 C13
GB 2030-439 C15+
DK 8001-741 C48

22463-C DE
GB 2029-854 C13+
FR 2433-046 C21+
DT 2919-685 C48

26418-C DE
J5 5028-970 C15
FR 2434-161 C23
US 4233-226 C48

27226-C DFJ
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NO 7902-880 C17
SW 7809-355 C19
SF 7902-764 C21
EP --16-220 C41
DK 8001-880 C48

30504-C BD
NL 7907-191 C17
BE -879-170 C17
GB 2032-913 C20
J5 5049-394 C21
DK 7904-140 C22
DT 2939-333 C24
US 4225-586 C42
FR 2449-099 C48

34490-C DE
US 4200-646 C19
DT 3003-084 C35
GB 2041-929 C38
FR 2448-529 C48

34789-C CDEF
DS 2909-550 C20
J5 5120-505 C44
NO 8000-476 C44
EP --16-857 C44
DK 8001-002 C45
SF 8000-714 C48
BR 8001-368 C48

34929-C D
DT 2847-746 C20
ZA 7806-090 C21+
BR 7807-388 C21+
NL 7811-023 C21+
DK 7805-019 C27+
FR 2440-915 C35+
US 4233-155 C48+

39942-C BCD
US 4203-970 C22
EP --15-846 C39
DK 8000-910 C44
J5 5133-319 C48

41515-C DJ
BE -881-214 C24
PT --70-690 C32
NL 8000-461 C36
DT 3001-492 C37
J5 5109-412 C40
NO 7904-247 C40
SW 8000-333 C40
DK 8000-178 C41
SF 8000-423 C43
BR 8000-503 C44
GB 2046-085 C46
FR 2448-928 C48

43329-C ABDG
BE -881-466 C25
OE 7901-189 C19
NL 8000-935 C36
DT 3002-934 C36
GB 2041-942 C38
SW 8000-469 C40
J5 5110-556 C41
DK 8000-655 C41
FR 2448-900 C48

43330-C ABDG
BE -881-467 C25
OE 7901-190 C19
NL 8000-936 C36
DT 3002-933 C36
GB 2042-556 C39
SW 8000-470 C40
J5 5110-557 C41
DK 8000-656 C41
FR 2448-901 C48

44969-C DE
US 4207-215 C25+
CA 1088-840 C48

46248-C CD
BE -881-647 C27+
NL 8000-876 C35+
PT --70-817 C36+
DT 3005-020 C36+
J5 5108-259 C40+
DK 8000-579 C40+
SW 8001-062 C40+
GB 2046-567 C47+
FR 2448-299 C48

46266-C D
BE -881-748 C27
PT --70-816 C36
NL 8000-973 C43
DT 3005-243 C44
GB 2046-291 C46
FR 2449-123 C48
DK 8000-485 C48
NO 8000-424 C48
SW 8001-078 C48

48199-C ACDE
BE -881-836 C28
NL 8001-019 C37
DT 3005-874 C37
SW 8001-235 C41
J5 5115-870 C42
DK 8000-738 C42
GB 2044-258 C42
BR 8001-025 C46
SF 8000-499 C48

49867-C BD
BE -881-953 C29
NL 8001-241 C39
DT 3007-446 C39
NO 8000-651 C43
SW 7902-035 C43
J5 5120-864 C44
DK 8000-968 C44
GB 2045-083 C44
SF 8000-706 C48

53327-C DE
BE -881-111 C31
NL 8000-821 C35
DT 3002-519 C35
GB 2041-378 C37
SW 8000-952 C39
FR 2448-298 C48

53328-C BDJ
BE -881-139 C31
NL 7909-224 C37
NO 8000-497 C41
SW 8001-063 C41
DK 8000-789 C42
J5 5120-798 C44
GB 2045-427 C44
SF 8000-181 C48

53441-C D
DL -141-609 C31
DT 3004-819 C39
GB 2043-023 C40
BR 8001-327 C48

53637-C ADJ
DT 2921-138 C31
J5 5096-162 C36
GB 2047-161 C48

53690-C ABDE
DT 3000-879 C31+
NL 8000-188 C31+
J5 5094-367 C35
SW 8000-146 C35+
GB 2040-935 C36+
FR 2446-287 C44+
J5 5133-382 C48

55257-C DE
BE -882-316 C32
PT --70-983 C41
NL 8001-680 C41
DT 3010-590 C42
DK 8001-228 C46
NO 8000-843 C46
SW 8002-189 C46
GB 2047-264 C48

56641-C D
US 4213-229 C32
CA 1088-706 C48

56947-C DJ
BE -882-537 C33
NL 8001-786 C43
DT 3007-068 C44
DK 8001-479 C48
SW 8002-554 C48
GB 2047-343 C48

57043-C DE
DT 2903-772 C33
DS 2903-772 C48

57101-C D
DT 2904-351 C33
PT --70-694 C32
FR 2448-569 C48

57193-C BD
DT 3003-191 C33
GB 2040-313 C35
FR 2448-152 C47
J5 5132-946 C48

58751-C AD
BE -881-588 C34
NL 8000-740 C35
DT 3004-567 C35
J5 5106-212 C39
GB 2043-082 C40
BR 8000-774 C45
FR 2448-549 C48

58760-C BD
BE -881-629 C34
NL 8000-815 C35
DT 3003-724 C35
J5 5105-693 C39
GB 2042-534 C39
FR 2448-543 C48

58767-C D
BE -882-567 C34
DT 3011-293 C44
GB 2045-614 C45
SW 8002-434 C47
US 4233-263 C48

58788-C DE
BE -882-672 C34
NL 8002-069 C44
DT 3011-015 C45
GB 2046-568 C47
SW 8001-686 C48

59029-C D
DT 3000-883 C34
GB 2041-229 C37
J5 5104-640 C39
SW 7910-519 C39
FR 2448-383 C48

59071-C D
DT 3003-824 C34
SW 7908-874 C39
GB 2042-768 C39
FR 2448-352 C48

59086-C DE
DT 3004-325 C34+
FR 2448-488 C48+

59105-C D
DT 3004-982 C34
GB 2042-492 C39
NO 8000-359 C40
SW 7901-183 C40
SF 8000-187 C43
FR 2448-518 C48

59851-C BD
NL 8000-628 C34+
PT --70-710 C32+
BE -881-509 C36+
J5 5104-296 C38+
DK 8000-125 C39+
GB 2042-532 C39+
SW 8000-842 C43+
FR 2447-922 C47+
DT 3003-624 C48+

60499-C D
BE -881-657 C35
GB 2043-523 C41+
FR 2448-300 C48

60500-C CD
BE -881-662 C35
DT 3005-347 C37
GB 2043-689 C41
FR 2448-865 C48

60503-C ADF
BE -881-705 C35
DT 3005-360 C36
FR 2448-867 C48

60520-C CDEH
BE -882-719 C35
NL 8002-122 C44
DT 2914-802 C45
GB 2046-725 C47
SW 8002-619 C48

60579-C D
DT 2904-519 C35
GB 2042-063 C38+
FR 2448-479 C48+

60582-C DJ
DT 2904-539 C35
GB 2043-692 C41
FR 2448-509 C48

60623-C CD
DT 2905-210 C35+
HU T016-660 C35
OE 7900-919 C27+
DL -142-145 C40+
FR 2448-297 C48+

60727-C ADE
DT 3003-766 C35
NL 8000-452 C35
GB 2042-580 C39+
BR 8000-656 C45
FR 2448-568 C48

60750-C ADE
DT 3004-553 C35
J5 5108-290 C40
GB 2045-747 C45
FR 2449-124 C48

60752-C D
DT 3004-664 C35
FR 2448-507 C48
GB 2047-104 C48

60771-C ADE
DT 3005-134 C35
GB 2041-954 C38
SW 8001-047 C40
J5 5111-409 C41
BR 8000-655 C45
FR 2448-345 C48

60793-C ABD
DT 3005-771 C35
PT --70-829 C36
BE -881-755 C36
NL 8000-962 C36
GB 2041-941 C38
NO 8000-351 C40
DK 8000-603 C41
J5 5115-827 C42
SW 8001-137 C43
FR 2448-971 C48

60840-C D
EP --14-394 C35
J5 5106-599 C39
DT 2904-335 C48

60877-C DE
EP --14-502 C35+
J5 5133-496 C48+

60935-C CDE
EP --14-648 C35+
FR 2449-255 C48

61645-C D
NL 8000-776 C35
SW 8001-051 C40
GB 2044-067 C42
FR 2448-295 C48

61647-C DL
NL 8000-796 C35+
GB 2041-759 C38+
FR 2448-342 C48+

62273-C DE
BE -881-792 C36+
DT 3004-338 C39+
NL 8000-903 C40+
PT --70-929 C41+
J5 5120-873 C44+
SW 8000-749 C44+
GB 2045-055 C44+
BR 8001-431 C48+

62276-C BD
BE -881-825 C36
NL 8001-041 C36
DT 3006-216 C37
J5 5111-790 C41
NO 8000-451 C41
DK 8000-730 C42
SW 8001-339 C43
GB 2046-737 C47
SF 8000-506 C48

62690-C

62690-C D
DT 2932-073 C36
EP --15-855 C39
FR 2449-273 C48

62714-C D
DT 3004-121 C36
GB 2046-235 C46
FR 2448-510 C48

62727-C BD
DT 3005-060 C36
NL 8001-106 C37
GB 2043-101 C40
BR 8001-029 C46
J5 5131-370 C48

62732-C ADJ
DT 3005-192 C36
GB 2042-417 C39
DK 8000-635 C41
J5 5116-401 C43
FR 2448-924 C48

62733-C ADM
DT 3005-264 C36+
J5 5113-449 C41+
GB 2044-129 C42
FR 2448-890 C48+

62734-C AD
DT 3005-265 C36+
GB 2045-082 C44+
FR 2448-891 C48+

62756-C BD
DT 3006-028 C36
GB 2047-401 C48

64094-C BDE
US 4218-442 C36
BE -882-507 C42
DT 3012-132 C42
J5 5130-968 C47
GB 2047-240 C48

64386-C D
DT 3002-511 C37
GB 2042-917 C40
SW 8001-141 C41
SF 8000-354 C48

64462-C CDE
DT 3007-138 C37
NL 8001-194 C37
SW 7901-738 C42
DK 8000-814 C43
GB 2044-799 C43
SF 8000-561 C48

64623-C CD
EP --15-082 C37
PT --70-869 C36
GB 2043-100 C40+
NO 8000-330 C42
DK 8000-831 C43
J5 5120-785 C44
BR 8001-124 C48+

64664-C D
EP --15-184 C37
FR 2448-864 C48

65356-C BD
NL 8001-045 C37
J5 5113-718 C42
DT 3007-412 C46
BR 8001-129 C48

65899-C D
US 4219-582 C37
GB 2045-052 C44
J5 5131-352 C48

65987-C BD
BE -883-161 C38
DT 3011-334 C47
NL 8002-658 C48

65994-C BDE
BE -883-175 C38
NL 8002-374 C48
DT 2919-162 C48

66303-C ADG
DT 2908-628 C38
EP --15-465 C39
J5 5118-974 C43
BR 8001-312 C48

67763-C CDEH
BE -883-183 C39
DT 3017-611 C48

67764-C CDEH
BE -883-184 C39
DT 3017-642 C48

67792-C DHJ
BE -883-306 C39
DT 2920-010 C48

67880-C D
DT 2908-967 C39
EP --15-478 C39
J5 5120-699 C44
BR 8001-342 C48

67979-C DJ
DT 2910-625 C39
GB 2046-610 C47
BR 8001-537 C48

68029-C CDEF
DT 3008-263 C39
GB 2044-311 C42
SW 7901-957 C43
SF 8000-547 C48

68078-C BD
EP --15-308 C39
NO 8000-647 C43
DK 8000-916 C44
J5 5127-991 C46
BR 8001-330 C48

69578-C BD
BE -882-325 C40
NL 8001-697 C48

69827-C D
DS 2919-449 C40
BE -883-318 C48
WP 8002-113 C43
DK 7901-383 C48

69837-C CDE
DT 2908-323 C40
EP --15-502 C41
J5 5118-466 C43
DK 8000-883 C44
BR 8001-231 C48

69838-C CDE
DT 2908-324 C40
EP --15-498 C41
J5 5118-472 C43
DK 8000-887 C44
BR 8001-203 C48

69851-C DE
DT 2909-572 C40
J5 5124-591 C45
DK 8001-043 C45
EP --17-741 C45
SF 8000-729 C48
BR 8001-427 C48

70061-C BDE
DT 3009-875 C40
BE -882-216 C40
NL 8001-528 C40
DK 8001-106 C45
NO 8000-748 C45
SW 8002-013 C45
GB 2046-743 C47
J5 5132-628 C48

71712-C D
DT 2911-192 C41
EP --17-708 C45
DK 8001-240 C46
J5 5131-394 C48

71934-C BCD
EP --16-374 C41
DT 2910-190 C41
J5 5124-789 C45
DK 8001-104 C45
NO 8000-755 C45
SF 8000-786 C48

71961-C D
EP --16-442 C41+
BR 8001-403 C48+

72004-C D
EP --16-567 C41
GB 2046-294 C46+
BR 8001-281 C48

72005-C D
EP --16-568 C41
GB 2046-293 C46+
BR 8001-280 C48

72054-C D
EP --16-685 C41
BR 8001-503 C48

72782-C BD
NL 8001-464 C41
GB 2044-773 C43
J5 5124-799 C45
DT 3005-225 C48

73451-C ABD
BE -882-476 C42
NO 8000-901 C46
SW 8002-357 C46
GB 2046-209 C46
DK 8001-305 C47
DT 3012-233 C48

73458-C BD
BE -882-545 C42
NL 8001-895 C43
DT 3012-303 C43
SW 8002-475 C47
DK 8001-425 C48

73461-C BCD
BE -882-574 C42
NL 8001-868 C43
DT 3012-565 C44
NO 8000-967 C47
DK 8001-387 C48
SW 8002-521 C48

73472-C BCD
BE -882-619 C42
WP 8002-113 C43
DK 7901-383 C48

73479-C BD
BE -882-632 C42
NL 8001-982 C43
DT 3013-246 C43
GB 2045-231 C44+
PT --71-064 C47
DK 8001-400 C48
NO 8000-869 C48

73577-C BDE
DL -143-269 C42
SW 7903-190 C48+

73758-C D
DT 2912-827 C42
EP --17-176 C44
J5 5131-393 C48

73774-C D
DT 2913-132 C42
EP --17-191 C44
J5 5134-638 C48

73815-C BD
DT 3008-645 C42
NL 8001-379 C42
GB 2045-252 C44
J5 5133-397 C48

73816-C BD
DT 3008-646 C42
NL 8001-380 C42
GB 2045-251 C44
J5 5133-398 C48

73817-C BD
DT 3008-647 C42
NL 8001-240 C42
GB 2045-253 C44
J5 5133-396 C48

73897-C ADJ
DT 3013-171 C42+
J5 5132-602 C48
J5 5134-607 C48
J5 5134-602 C48

74576-C BD
NL 8001-381 C42
GB 2045-254 C44
J5 5133-399 C48
DT 3008-648 C48

75321-C DE
BE -882-667 C43
NL 8001-929 C43
DT 3012-922 C44
DK 8001-443 C48
NO 8000-930 C48
SW 8002-599 C48

75331-C D
BE -882-690 C43
NL 8002-082 C44
DT 3013-207 C44
GB 2045-773 C45
SW 8002-643 C48

75418-C DE
DT 2910-152 C43
EP --17-013 C44
BR 8001-518 C48

75471-C ADE
DT 2913-467 C43
EP --17-207 C44
J5 5133-308 C48

75495-C BCDE
DT 2913-728 C43
EP --18-493 C47
J5 5133-363 C48

75598-C BD
DT 3012-532 C43
J5 5131-390 C48

76316-C ABD
NL 8001-223 C43+
DT 3007-368 C44+
GB 2045-618 C45+
J5 5133-310 C48

76328-C CD
NL 8002-026 C43
DT 3013-536 C44
GB 2046-570 C47
SW 8002-474 C48

77015-C DE
WP 8002-156 C43+
J5 5133-391 C48
J5 5133-392 C48

77177-C DE
DT 2914-101 C44
GB 2046-606 C47
SW 8002-213 C48

77286-C BD
DT 3011-182 C44
GB 2047-091 C48

77301-C BDE
DT 3012-921 C44
J5 5131-397 C48

77338-C CD
DT 3014-975 C44
BE -882-822 C44
NL 8002-290 C45
PT --71-114 C47
GB 2047-066 C48

77397-C ADE
EP --17-151 C44
DT 2913-220 C44
J5 5133-406 C48

77400-C D
EP --17-158 C44
DK 8001-394 C48

77438-C DHJ
EP --17-283 C44
J5 5134-610 C48

77480-C BDJ
EP --17-414 C44
DK 8001-396 C48

77502-C BD
EP --17-460 C44
J5 5134-357 C48
DK 8001-380 C48

77561-C DE
EP --17-604 C44
J5 5133-307 C48

77575-C ABCD
EP --17-639 C44
NO 8000-934 C47
SW 7902-893 C47
DK 8001-401 C48

77579-C D
EP --17-650 C44
OE 7902-639 C44
NO 8001-010 C48

77671-C BD
GB 2045-243 C44
J5 5127-994 C46
DT 3007-400 C48

79122-C DF
DT 3014-040 C45
GB 2045-821 C45
SW 8002-768 C48

79202-C ADG
EP --17-794 C45
NO 8000-954 C48

79208-C DE
EP --17-827 C45
DS 2913-592 C45
NO 8000-874 C47
DK 8001-422 C48
DT 2913-592 C48

79213-C CD
EP --17-853 C45+
NO 8001-065 C48+
GB 2047-268 C48+
GB 2045-618 C45+
J5 5133-310 C48

79282-C AD
EP --18-020 C45
BR 8001-307 C48

79337-C ADJ
EP --18-131 C45
J5 5134-646 C48
DK 8001-478 C48

79863-C D
J5 5124-498 C45+
DT 3010-790 C48+

80648-C D
US 4229-487 C45
NL 8002-537 C47
DT 3013-085 C48

81145-C DHJM
DT 3014-678 C46
GB 2047-222 C48

82635-C BDJ
BE -883-099 C47
WP 8002-380 C48

82639-C AD
BE -883-107 C47
DT 3017-017 C48

82713-C D
DT 2917-376 C47
BR 8001-516 C48

82995-C ADE
EP --18-630 C47
DT 2918-364 C48

83013-C ADE
EP --18-681 C47
US 4233-460 C48

83066-C BD
EP --18-825 C47
WP 8002-433 C48

84341-C D
BE -883-265 C48

84342-C AD
BE -883-266 C48

84353-C D
BE -883-296 C48+

84365-C BDE
BE -883-322 C48

84392-C D
BE -884-374 C48

84400-C D
BE -884-429 C48

84407-C D
CA 1088-803 C48

84408-C D
CA 1088-806 C48

84413-C D
CA 1089-128 C48

84425-C D
DL -144-173 C48

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86176-C D
US 4233-152 C48

86177-C DJ
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86181-C DJ
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86188-C ADE
US 4233-171 C48+

86189-C ADE
US 4233-172 C48+

86190-C DE
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= 431 62273C D22E19P3
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